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Takings, Torts, and Background Principles

Sandra B. Zellmer

TAKINGS, TORTS, AND BACKGROUND PRINCIPLES

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INTRODUCTION

Landowners impacted by flooding have been emboldened to pursue inverse condemnation actions by recent Supreme Court precedent, *Arkansas Game & Fish Commission v. United States*,[1] which held that temporary inundation could constitute a Fifth Amendment taking.[2] In one piece of pending litigation, over four hundred landowners and two American Indian tribes with property in seven states have sued the United States for takings from losses caused by flooding on the Missouri River.[3] In 2011, unprecedented precipitation and snowmelt caused extensive damage to thousands of acres of floodplain land.[4] Floodwater not only carved fifty-foot deep gouges in the land but also created sand dunes up to fifteen feet high, some of which are still present to this day.[5] Unable to sue the atmosphere itself, or the Creator of the snowpack and rainfall, the landowners sued the United States, claiming that the government managed its flood control structures in a manner that failed to protect the landowners' downstream properties.

Looking downstream to a different lawsuit, New Orleans landowners successfully raised takings claims against the United States for constructing and operating a navigational channel that acted as a hurricane "superhighway" for Gulf Coast storms.[6] There, the landowners amassed evidence that the channel magnified storm

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1. 133 S. Ct. 511 (2012).
2. *Id.* at 522.
3. Complaint at 1–5, 7, Ideker Farms, Inc. v. United States, No. 1:14-cv-00183-NBF (Fed. Cl. Mar. 5, 2014). The 2011 flood also provoked takings claims from Mississippi River floodplain owners. Quebedeaux v. United States, 112 Fed. Cl. 317, 319–20 (2013).
4. Josh Funk, *Landowners File Lawsuit over Missouri River Floods*, SAINT LOUIS POST-DISPATCH (Mar. 5, 2014), http://www.stltoday.com/business/local/landowners-file-lawsuit-over-missouri-river-floods/article_91bcc5f4-fb49-55a1-ace1-38fe25570293.html.
5. *Id.*
6. Saint Bernard Par. Gov't v. United States, 126 Fed. Cl. 707, 713, 732 (2016).

surges and directed floodwaters onto the properties of "at least" thirty thousand adversely affected property owners.[7]

Flood-related takings issues warrant heightened attention from both a legal and physical standpoint. Populations are rapidly growing in floodplains and coastal areas, while climate change and rising sea levels are placing even more pressure on every level of government to protect those populations.[8] At the same time, *Arkansas Game & Fish* and its progeny produce a chilling effect, making officials less likely to restrict improvident floodplain and coastal development for fear of takings claims.[9] These cases may also inhibit governments' willingness to engage in ecological restoration projects or to construct, retrofit, or operate dams, levees, and other types of flood control structures for any purpose other than flood control, such as environmental quality, recreation, or wildlife habitat.[10]

Legally, perhaps more than any other type of physical occupation, flood cases raise a slough of critical issues regarding the management of vulnerable properties and compensation for government actions that affect those properties. Unpacking these issues necessarily requires a deep assessment of the interrelated concepts of torts, takings, and property rights.

The fundamental jurisdictional issue to be resolved in flood-related cases is whether a plaintiff's claims should be characterized as a tort, such as negligence, or an appropriation under the Fifth Amendment. If the claims are the former, they cannot be brought in the Court of Federal Claims ("Claims Court"), which is a court of limited jurisdiction.[11] Also, if the claims sound in torts rather than takings, federal immunity may require dismissal regardless of the venue.[12] On remand, *Arkansas Game & Fish* blurred the line between the two characterizations to such an extent that the

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7. *Id.* at 734, 736.

8. Sarah Childress & Katie Worth, *How Federal Flood Maps Ignore the Risks of Climate Change*, FRONTLINE (May 26, 2016), http://www.pbs.org/wgbh/frontline/article/how-federal-flood-maps-ignore-the-risks-of-climate-change/.

9. *See* Robert Haskell Abrams & Jacqueline Bertelsen, *Downstream Inundations Caused by Federal Flood Control Dam Operations in a Changing Climate: Getting the Proper Mix of Takings, Tort, and Compensation*, 19 U. DENV. WATER L. REV. 1, 11 (2015) (observing that *Arkansas Game & Fish* will encourage litigation by flood-affected landowners).

10. *See id.*; James E. Krier & Stewart E. Sterk, *An Empirical Study of Implicit Takings*, 58 WM. & MARY L. REV. 35, 93 (2016) (noting that broadening rights to compensation "undoubtedly instill[s] fear in many would-be regulators").

11. Pierce v. United States, 117 Fed. Cl. 798, 800 (2014).

12. Flood Control Act, 33 U.S.C. § 702c (2012); Sanguinetti v. United States, 264 U.S. 146, 150 (1924).

distinction is now virtually unrecognizable.[13] A relatively clear demarcation based on the government's intent or substantial certainty that plaintiff's property will be occupied by government action can be found in previous federal decisions and in the decisions of a number of state courts.[14] Under this test, the vast majority of cases will be treated as ordinary negligence rather than constitutional takings.

If the jurisdictional threshold can be overcome, for claims sounding in takings rather than in torts, both the nature of the government action and the nature of the plaintiff's property interest will be at issue. One may reasonably question whether a right to develop a vulnerable area, such as low-lying property within a floodplain or coastal zone, inheres in one's property rights, or whether instead such development is prohibited under background principles of property law. In addition, a long line of case law from the Supreme Court and the Claims Court suggests that there is no taking when a government program damages private property where the program, in its entirety, has reduced general flood hazards and is beneficial to the land in question.

Part I of this Article lays bare the inherent and human-made vulnerabilities of floodplain and coastal properties. To provide context, Part II turns to the 2011 flood and the claims brought against the United States for failing to hold back the floodwaters. Part III examines the nature of claims brought by landowners seeking compensation from the government when their property is flooded. This Part argues that takings and torts are different, for good reason. The government's power to take private property through appropriation—whether exercised explicitly through eminent domain proceedings or implicitly through occupation or regulation—is an affirmative power exercised for the public's benefit. Such an affirmative power must involve some element of intent; otherwise the government's action may be tortious, but it is not unconstitutional. Part IV places the inherent vulnerabilities of floodplain and coastal properties within background principles of property law by assessing investment-backed expectations, public nuisance and public trust doctrines, and government-provided benefits (or givings). The point is driven home in Part V: the vast majority of cases involving temporary physical occupations by flooding are torts, not takings, and those that are characterized as takings may only be successful if a reasonable investment-backed expectation in a lawful activity or development is adversely affected such that the landowner has experienced greater losses than gains at the hands of the government.

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13. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1374 (Fed. Cir. 2013).

14. *See infra* Subpart III.C.

I. FLOODPLAIN AND COASTAL PROPERTY

Floodplain and coastal dwellers are the most likely populations to be adversely affected by severe storms and floods, and the risk of catastrophic impacts is increasing as the earth's climate warms. The National Climate Assessment projects more winter and spring precipitation for the northern United States over the course of this century.[15] The Federal Emergency Management Agency ("FEMA") reports that, by 2100, rising sea levels and increasingly severe weather will place even more areas of the United States at risk of extreme flooding, including coastal regions and areas along rivers, by up to 45%.[16]

In riverine areas, the increased intensity of flooding due to climate change is based on heavier rainfall and snowmelt during storm episodes, while in coastal areas, increased flooding is primarily due to high winds and atmospheric pressures that produce large waves and storm surges.[17] Although coastal areas make up only 10% of the United States' landmass, nearly 40% of the population lives on a coast.[18] Population density in coastal shoreline counties is over six times greater than in the inland counties.[19] Population growth is accelerating in these areas.[20] By 2020, nearly 50% of Americans are expected to reside in coastal counties.[21] In riverine floodplain areas, populations are expected to grow a whopping 160% by 2100.[22]

With growing population and population density comes increased environmental degradation through erosion, nutrient runoff, waste disposal, and shoreline alteration (such as levees, riprap, and other forms of shoreline armoring). Degradation

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15. U.S. GLOB. CHANGE RESEARCH PROGRAM, CLIMATE CHANGE IMPACTS IN THE UNITED STATES 32–33 (2014), https://www.globalchange.gov/browse/reports/climate-change-impacts-united-states-third-national-climate-assessment-0; *see also* NAT'L ACADS. OF SCIS. ENG'G & MED., ATTRIBUTION OF EXTREME WEATHER EVENTS IN THE CONTEXT OF CLIMATE CHANGE 100 (2016), https://www.nap.edu/read/21852/chapter/6#99 (stating that warming may result in more frequent episodes of heavy rainfall and snowfall).

16. AECOM, THE IMPACT OF CLIMATE CHANGE AND POPULATION GROWTH ON THE NATIONAL FLOOD INSURANCE PROGRAM THROUGH 2100 at 4-7, 5-12 (2013), http://www.acclimatise.uk.com/login/uploaded/resources/FEMA_NFIP_report.pdf.

17. *Id.* at ES-2.

18. NAT'L OCEANIC & ATMOSPHERIC ADMIN., NATIONAL COASTAL POPULATION REPORT: POPULATION TRENDS FROM 1970 TO 2020, at 3 (2013), http://oceanservice.noaa.gov/facts/coastal-population-report.pdf.

19. *Id.* at 5.

20. *Id.* at 4.

21. *Id.*

22. AECOM, *supra* note 16, at 5-13. Coastal counties are those that are "directly adjacent to the open ocean, major estuaries, and the Great Lakes," and which "bear the most direct effects of coastal hazards." NAT'L OCEANIC & ATMOSPHERIC ADMIN., *supra* note 18, at 2.

increases the vulnerability of shorelines and coastal and riverine properties to devastating storms and floods.[23] Meanwhile, maintaining the integrity of coastal and riverine ecosystems in the face of increasing development is an even greater challenge for governments at every level.[24]

Most flood control structures were built with average historic conditions in mind.[25] Operators of dams and other structures strive to release floodwaters in a manner that provides optimal protection and risk reduction to downstream properties, but changing conditions will force operators to adapt so their structures continue to function in the face of more extreme conditions.[26] With respect to dams, when major storms and flood events occur, water may exceed the storage capacity of the reservoir behind the dam, and when it does that water will have to be released.[27] It must go somewhere and, given the law of gravity, it is going to flow downstream, adversely affecting downstream properties. In all likelihood, some landowners will be more adversely affected than others, depending on where they are located downstream and the topography of their land.[28]

II. RECURRENT, BUT TEMPORARY, OCCUPATIONS

In 2011, the Missouri River Basin experienced the catastrophic effects of high rainfall, unprecedented amounts of precipitation and snowmelt, and extensive flooding.[29] That spring brought the highest runoff volume since 1898, requiring record releases of water from upstream reservoirs managed by the U.S. Army Corps of Engineers ("Corps").[30] In 2011, runoff into the system was 148% higher than the historical median.[31] Later in the summer, rainfall was three to six times the normal amount in the upper Missouri River Basin.[32]

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23. AECOM, *supra* note 16, at 5-13.

24. *See* JR Ball, *Louisiana Flood of 2016 Made Worse by Growth-Focused Policies*, TIMES-PICAYUNE (Sept. 23, 2016, 9:00 AM), http://www.nola.com/news/baton-rouge/index.ssf/2016/09/louisiana_flood_of_2016_develo.html ("[R]apid and largely unchecked growth in the suburbs of Baton Rouge . . . coupled with a degraded natural drainage system, is putting more people in harm's way.").

25. Abrams & Bertelsen, *supra* note 9, at 2.

26. *Id.* at 2, 5.

27. *Id.* at 4.

28. *Id.* at 18, 20.

29. U.S. GOV'T ACCOUNTABILITY OFFICE, GAO–14–741, MISSOURI RIVER FLOOD AND DROUGHT 1–2 (2014).

30. *Id.* at 1.

31. *Id.* at 14. Annual runoff into the Missouri River system varies significantly from year to year, with the lowest runoff year being 1931 (10.6 million acre feet ("MAF")) and the historical median being 24.6 MAF. *Id.* In 2011, runoff amounted to 61 MAF, which would cover all of Oregon one foot deep. *Id.*

32. *See id.* at 16.

The third-wettest month ever documented was May 2011, and the fifth-wettest month was July 2011.[33] Although the Missouri River reservoir system is the largest in the United States, with about 73.1 million acre-feet of water storage capacity, it was not enough to hold back the floodwaters.[34] Independent studies found that the excessive amount of runoff would have overwhelmed the capacity of the reservoirs even if they had been nearly empty at the start of the rainfall.[35]

The Corps responded to these extraordinary conditions, in part, by increasing its releases from the lowermost main stem dam on the system, Gavins Point.[36] Downstream, floodwater carved fifty-foot deep gouges in the land.[37] It also created sand dunes up to fifteen feet high, some of which are still present on farm fields to this day.[38] Most of the damage from inundation and sediment deposition occurred between river miles 480 and 700[39]—well over one hundred miles downstream from Gavins Point.[40]

All told, the 2011 flood caused three billion dollars in damages to 1.2 million acres of land.[41] Over one hundred counties and parishes in seven states were affected.[42] Floodplain farmers lost

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33. U.S. ARMY CORPS OF ENG'RS, MISSOURI RIVER MAINSTEM RESERVOIR SYSTEM: 2011 FLOOD REGULATION 18 (2011). In Sioux City, Iowa (the demarcation between upper and lower basins), runoff measurements smashed the old 1952 record by one MAF. U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 29, at 15.

34. U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 29, at 5.

35. *See id.* at 6; U.S. DEP'T OF COMMERCE, SERVICE ASSESSMENT: THE MISSOURI/SOURIS FLOODS OF MAY–AUGUST 2011, at x (2012); U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, THE EFFECTS OF MISSOURI RIVER MAINSTEM RESERVOIR SYSTEM OPERATIONS ON 2011 FLOODING USING A PRECIPITATION-RUNOFF MODELING SYSTEM MODEL 2 (2014).

36. U.S. GEOLOGICAL SURVEY, U.S. DEP'T OF THE INTERIOR, SEDIMENT TRANSPORT AND DEPOSITION IN THE LOWER MISSOURI RIVER DURING THE 2011 FLOOD 5 (2013).

37. Josh Funk, *Federal Officials Say US Army Corps Shouldn't Be Blamed for Major Flooding on Missouri River*, U.S. NEWS & WORLD REP. (June 23, 2014, 5:44 PM), http://www.usnews.com/news/science/news/articles/2014/06/23/officials-deny-causing-missouri-river-floods.

38. *Id.*

39. U.S. GEOLOGICAL SURVEY, *supra* note 35, at 2.

40. *Id.* at 5. Gavins Point Dam is located at river mile 811, that is, 811 miles upstream from the Missouri's confluence with the Mississippi River. *Id.*

41. NAT'L OCEANIC & ATMOSPHERIC ADMIN., U.S. FLOOD LOSS REPORT–WATER YEAR 2011, at 1; Emily Holbrook, *Historic Floods of the Big Muddy*, RISK MGMT. (Aug. 1, 2011, 2:01 PM), http://www.rmmagazine.com/2011/08/01/historic-floods-of-the-big-muddy/; Adrian Sainz, *Mississippi River Flood of 2011 Caused $2.8B in Economic Damage: Army Corps*, INS. J. (Feb. 27, 2013), http://www.insurancejournal.com/news/national/2013/02/27/282875.htm.

42. U.S. ARMY CORPS OF ENG'RS, 2011 POST–FLOOD REPORT: MISSISSIPPI RIVER AND TRIBUTARIES SYSTEM, at ES-II (2012).

millions of dollars in crops, but those losses were partially offset by crop insurance and other disaster payments.[43]

Over four hundred landowners and two federally recognized American Indian tribes sued the Corps for Fifth Amendment takings in response to the flooding.[44] The plaintiffs in *Ideker Farms v. United States*[45] alleged that the Corps caused damage to their properties by mismanaging the Missouri River reservoir system.[46] Rather than bringing a tort claim, the *Ideker* plaintiffs relied on recent Supreme Court precedent, namely *Arkansas Game & Fish*, where the Court held that recurrent flooding through operations of a dam could constitute a Fifth Amendment taking.[47]

Although couched as constitutional takings claims, the Missouri/Mississippi River floodplain owners have lodged a classic case of negligence. As for a breach of duty, they allege that the Corps caused damage to their properties by carelessly abandoning its flood control mission in favor of other priorities.[48] Specifically, they claim that the Corps kept its upstream reservoirs full to benefit endangered species, and that full reservoirs meant less storage for the floodwaters that eventually poured down on them.[49]

External reviews confirmed that the Corps's operations were dictated by unprecedented conditions—abnormal snowmelt and rainfall—not shifting priorities.[50] However, if the case was treated like the tort case it appears to be, these factual questions need not be resolved because the Corps is immune from tort liability for flood control activities.[51] Only if the claims are treated as takings would it be necessary to delve more deeply into these facts. The distinction is explored in the following Part.

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43. *See* U.S. DEP'T OF COMMERCE, *supra* note 35, at x; *see also* William Edwards, *Flood Damaged Crops, Crop Insurance Payments, and Lease Contracts*, IOWA ST. U. (Aug. 2011), https://www.extension.iastate.edu/agdm/articles/edwards/EdwAug11.html (noting that "nearly 90 percent of Iowa's corn and soybean acres are protected by multiple peril crop insurance," and that, while such policies typically cover 75–80% of losses, in 2011, crops had even greater protection from loss under Revenue Protection policies).

44. First-Amended Complaint at 1–7, Ideker Farms, Inc. v. United States, No. 1:14-cv-00183-NBF (Fed. Cl. Oct. 15, 2015).

45. Complaint, *supra* note 3.

46. *Id.* at 7.

47. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 515 (2012).

48. First-Amended Complaint, *supra* note 44, at 8.

49. *Id.*

50. *See supra* note 35. "The dam reservoirs filled to the brim with heavy mountain snowmelt and spring rain, but they held. For the first time, emergency spillway gates were opened for flood control and they worked exactly as envisioned." Bismarck Tribune, *Five Years Later: Garrison Dam Held During Missouri Flood in 2011*, INFORUM (June 1, 2016, 10:38 PM), http://www.inforum.com/news/4045851-five-years-later-garrison-dam-held-during-missouri-river-flood-2011.

51. Flood Control Act, 33 U.S.C. § 702c (2012).

III. TORTS NOT TAKINGS

The Fifth Amendment requires compensation when the government acquires private property for public purposes, whether the acquisition is the result of a condemnation proceeding or a government appropriation by way of a physical occupation.[52] Fifth Amendment takings law also requires compensation when a government regulation prevents a property owner from making economic use of the property.[53] In either case, the takings doctrine finds its footing in common law property but also in torts.[54]

A tort is defined, in broad terms, as a legal wrong for which there is a private right to sue for a remedy.[55] All types of torts, whether they be intentional torts like battery and trespass, fault-based torts like negligence, or hybrid torts like nuisance,[56] have similar objectives: compensating victims of harm; apportioning risks; allocating the burden of loss equitably among parties; and preventing future harm by deterring wrongful conduct.[57] Beyond that, the various types of torts have few common characteristics. Some arise out of bodily injury,[58] some out of interference with intangible things, such as reputation,[59] and still others arise out of damage to property.[60]

The latter group of torts, including negligence, nuisance, and trespass, are those that have the most in common with Fifth Amendment takings, that is, when the actor is the government. Yet the Takings Clause has a very different purpose than tort law. Although, like tort liability, it allocates the burden of loss among the parties to the dispute, the Takings Clause is meant to accomplish equity between the private property owner, the government, and the

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52. Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 321 (2002).

53. *Id.* at 330.

54. Hansen v. United States, 65 Fed. Cl. 76, 80 (2005); *see* Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355 (Fed. Cir. 2003) ("Inverse condemnation law is tied to, and parallels, tort law." (citing 9 PATRICK J. ROHAN & MELVIN A. RESKIN, NICHOLS ON EMINENT DOMAIN § G34.03[1] (3d ed. 1980 & Supp. 2002))).

55. John C.P. Goldberg & Benjamin C. Zipursky, *Torts As Wrongs*, 88 TEX. L. REV. 917, 985 (2010).

56. *See* 2 DAN B. DOBBS, THE LAW OF TORTS § 400, at 622 (2d ed. 2011) (describing private nuisance as "liability for substantial and unreasonable interference with the plaintiff's use and enjoyment of her land by negligent or intentional interference, or, more rarely, by strict liability").

57. Nancy L. Manzer, Note, *1986 Tort Reform Legislation: A Systematic Evaluation of Caps on Damages and Limitations on Joint and Several Liability*, 73 CORNELL L. REV. 628, 638–39 (1988).

58. *E.g.*, Cain v. McKinnon, 522 So. 2d 91, 91 (Miss. 1989).

59. *E.g.*, Gertz v. Robert Welch, Inc., 680 F.2d 527, 530–31 (7th Cir. 1982).

60. *E.g.*, Abresch v. Nw. Bell Tel. Co., 75 N.W.2d 206, 211–12 (Minn. 1956) (negligence theory); Gaw v. Seldon, 85 So. 2d 312, 317–18 (Miss. Ct. App. 2012) (nuisance theory); Hark v. Mountain Fork Lumber Co., 34 S.E.2d 348, 352 (W. Va. 1945) (trespass theory).

public.[61] When the government seizes or otherwise takes property in the name of some public purpose, the Takings Clause "bar[s] Government from forcing some people alone to bear public burdens which, in all fairness and justice, should be borne by the public as a whole."[62]

A. *Jurisdictional Prerequisites and Immunity*

Courts have long struggled to distinguish takings claims from tort claims. According to the Claims Court, "there is no clear cut distinction" between the two.[63] Courts and commentators alike have observed that the attempt to find such a distinction is "the lawyer's equivalent of the physicist's hunt for the quark."[64] Those who dare to undertake the quest may find themselves stuck in a "Serbonian Bog."[65]

Yet undertake this quest we must. The distinction between takings and torts makes a significant difference when it comes to flood-related claims against the federal government for two reasons. First, as to jurisdiction, Fifth Amendment takings claims—whether flood related or otherwise—must be lodged in the Claims Court pursuant to the Tucker Act,[66] which encompasses "any claim against the United States founded either upon the Constitution, or any Act of Congress or any regulation of an executive department, or upon any express or implied contract with the United States, or for liquidated or unliquidated damages *in cases not sounding in tort.*"[67] This provision operates as "a broad exclusion of tort cases from the court's jurisdiction."[68] A well-founded allegation of something other

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61. James E. Holloway & Donald C. Guy, *Weighing the Need to Establish Regulatory Takings Doctrine to Justify Takings Standards of Review and Principles*, 34 WM. & MARY ENVTL. L. & POL'Y REV. 315, 332 (2010).

62. Armstrong v. United States, 364 U.S. 40, 49 (1960); *see* Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 542–43 (2005) (citing *Armstrong* in the context of regulatory takings); First English Evangelical Lutheran Church v. Cty. of Los Angeles, 482 U.S. 304, 318–19 (1987) (citing *Armstrong* in finding a temporary taking); *see also* Kelo v. City of New London, 545 U.S. 469, 480 (2005) (construing "public purpose" to include economic development).

63. Hansen v. United States, 65 Fed. Cl. 76, 80 (2005).

64. San Diego Gas & Elec. Co. v. City of San Diego, 450 U.S. 621, 649 n.15 (1981) (Brennan, J., dissenting) (quoting C. HARR, LAND USE PLANNING 766 (3d ed. 1976)). Justice Brennan went on to say that the distinction between torts and takings is "the most haunting jurisprudential problem in the field of contemporary land-use law." *Id.*

65. *Hansen*, 65 Fed. Cl. at 80. A Serbonian Bog is "a mess from which there is no way of extricating oneself . . . '[w]here armies whole have sunk.'" 1 GEORGE CAMERON COGGINS & ROBERT L. GLICKSMAN, PUBLIC NATURAL RESOURCES LAW § 12:14 n.19 (2d ed. 2015) (citing JOHN MILTON, PARADISE LOST, Book II, line 592 (1667)).

66. 28 U.S.C. § 1491 (2012).

67. *Id.* § 1491(a)(1) (emphasis added).

68. *Hansen*, 65 Fed. Cl. at 95; *see* Brown v. United States, 105 F.3d 621, 623 (Fed. Cir. 1997) ("The Court of Federal Claims . . . lacks jurisdiction over

than ordinary negligence, then, is a necessary prerequisite for invoking jurisdiction for a takings claim in the Claims Court and avoiding dismissal.[69]

Second, as to flood-related claims, the United States is statutorily immune from tort liability. The Flood Control Act[70] states, "No liability of any kind shall attach to or rest upon the United States for any damage from or by floods or flood waters at any place."[71] The terms "flood" and "floodwaters" have been construed expansively by the Supreme Court. In *United States v. James*,[72] the Court found that the Act barred wrongful death claims arising out of boating accidents on reservoirs created for flood control but used extensively for recreation and other purposes:

> The Act concerns flood control projects designed to carry floodwaters. It is thus clear . . . that the terms "flood" and "flood waters" apply to *all waters contained in or carried through a federal flood control project for purposes of or related to flood control, as well as to waters that such projects cannot control.*[73]

The Court added, "Congress' choice of the language '*any* damage' and 'liability of *any* kind' further undercuts a narrow construction" of this immunity provision.[74]

Although the Supreme Court subsequently disavowed the dicta of *James* that would have immunized projects merely "related to" flood control,[75] it stood by the position that "the phrase 'floods or flood waters' is not narrowly confined to those waters that a federal project is unable to control, and that it encompasses waters that are released for flood control purposes when reservoired waters are at flood stage."[76] It clarified: "the statute directs us to determine the scope of the immunity conferred, not by the character of the federal project or the purposes it serves, but by the character of the waters that cause the relevant damage and the purposes behind their release."[77] If "flood waters" caused the harm, the government is

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tort actions"); *In re* Chi., Milwaukee, St. Paul & Pac. R.R. Co. v. United States, 799 F.2d 317, 326 (7th Cir. 1986) ("The Court has never treated limitations on liability in tort as mere pleading obstacles, to be surmounted by shifting ground to the Tucker Act.").

69. Spruill v. Merit Sys. Prot. Bd., 978 F.2d 679, 687–88 (Fed. Cir. 1992); Columbia Basin Orchard v. United States, 132 F. Supp. 707, 710 (Ct. Cl. 1955).

70. 33 U.S.C. § 702 (2012).

71. *Id.* § 702c.

72. 478 U.S. 597 (1986).

73. *Id.* at 605 (emphasis added).

74. *Id.*

75. Cent. Green Co. v. United States, 531 U.S. 425, 431 (2001).

76. *Id. Central Green* noted that *James* plainly encompassed "waters that are released for flood control purposes." *Id.*

77. *Id.* at 434.

immune from tort claims for both property damage and personal injury.[78]

However, the Flood Control Act does not bar tort claims for damages caused by the government's navigational structures, such as the negligence claims arising out of the construction and operation of a navigational channel in the Gulf of Mexico, which served as a hurricane superhighway that directed Hurricane Katrina's storm surge into the heart of New Orleans.[79] In such cases, plaintiffs may assert tort claims against the government under the Federal Tort Claims Act[80] ("FTCA"), but the United States may seek dismissal under the immunity provision of that Act.[81] The FTCA shields the federal government from tort liability for its discretionary actions, such as how to manage its navigational channels and whether to change operations to prevent channel erosion and the storm-surge superhighway effect.[82] Under either statute, but especially the Flood Control Act, plaintiffs harmed by federal activities related to flooding have a difficult time avoiding dismissal of their tort claims against the federal government.[83]

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78. *Id.*; *James*, 478 U.S. at 605. In *Central Green*, the plaintiff's farm was subjected to flooding due to an irrigation canal within the Central Valley Project, a massive, multiple-use project for irrigation, flood control, and other purposes. *Cent. Green*, 531 U.S. at 427. The Court noted, "to characterize every drop of water that flows through that immense project as 'flood water' simply because flood control is among the purposes served by the project unnecessarily dilutes the language of the statute" and remanded for a determination of the character of the waters that caused the damage. *Id.* at 434.

79. *See In re* Katrina Canal Breaches Litig., 696 F.3d 436, 444–51 (5th Cir. 2012) (determining that while the government could not claim immunity under the Flood Control Act for claims related to dredging of the Mississippi River Gulf Outlet ("MRGO"), the Act did provide immunity against claims stemming from levee breaches caused by dredging); *see also* Saint Bernard Par. Gov't v. United States, 121 Fed. Cl. 687, 747 (2015) (allowing takings claims to proceed on the same facts); *cf.* Nicholson v. United States, 77 Fed. Cl. 605, 617 (2007) (finding that flooding was not "the direct, natural, or probable result of the . . . flood protection system in New Orleans," but instead was the result of Hurricane Katrina).

80. 28 U.S.C. §§ 1346(b), 2671–2680 (2012).

81. *Id.* § 2680(a).

82. *See In re Katrina Canal Breaches*, 696 F.3d at 452 (finding the government was immunized under the FTCA for claims related to discretionary operations of navigational projects).

83. *See id.* Courts have presumed that the Flood Control Act's immunity provision does not bar takings claims because a statutory provision cannot abrogate a constitutional mandate, such as the Fifth Amendment. Lenoir v. Porters Creek Watershed Dist., 586 F.2d 1081, 1088 (6th Cir. 1978); Turner v. United States, 23 Cl. Ct. 447, 455 (1991).

B. Nature of Government Action: Intentional Occupation or Ordinary Negligence

Claimants alleging a government-induced appropriation of property bear the burden of alleging sufficient facts to show that treatment under takings law, rather than tort law, is appropriate.[84] If the grievances are bona fide takings claims, the United States "must proceed subject to the limitations imposed by [the] Fifth Amendment, and can take [property] only on payment of just compensation."[85]

A compensatory taking can occur in several different ways. The Fifth Amendment requires compensation when the government affirmatively exercises its power of eminent domain to condemn a property and take title to it.[86] Besides this kind of overt act, governments take property in a variety of other ways. "Implicit takings" include inverse condemnation by regulation and takings by invasion or occupation, where the government did not intend to take title but effectively did so by its actions.[87] The latter category of implicit takings is the focus of this Article.

In rare cases where a government action causes a permanent physical occupation of the property to accomplish some public purpose or denies all economically beneficial use of the property, a per se taking will be found.[88] That is, compensation must be paid unless the interest in question was already limited by a background principle of law that inhered in the claimant's title.[89] By contrast, as established in *Penn Central Transportation v. New York City*,[90] when the government goes "too far" in impacting the claimant's property, courts apply a balancing test.[91]

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84. Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355–56 (Fed. Cir. 2003).

85. Turner v. United States, 17 Cl. Ct. 832, 834 (1989) (quoting Monongahela Navigation Co. v. United States, 148 U.S. 312, 336 (1893)).

86. Eminent domain is "[t]he inherent power of a governmental entity to take privately owned property . . . and convert it to public use, subject to reasonable compensation for the taking." *Eminent Domain*, BLACK'S LAW DICTIONARY (10th ed. 2014).

87. *See* Krier & Sterk, *supra* note 10, at 40 (describing implicit takings as "all takings that arise outside the context of explicit takings by condemnation"). The roots of this doctrine are found in *Pumpelly v. Green Bay Co.*, where a government-authorized dam permanently flooded private property. 80 U.S. 166, 167 (1871).

88. Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 322 (2001) (citing United States v. Pewee Coal Co., 341 U.S. 114, 115 (1951)); *see, e.g.*, Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1019 (1992); Yee v. City of Escondido, 503 U.S. 519, 522 (1992); Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 426 (1982).

89. *Lucas*, 505 U.S. at 1029.

90. 438 U.S. 104 (1978).

91. *Id.* at 124.

In *Loretto v. Teleprompter Manhattan CATV Corporation*,[92] the Court found a per se taking where the government compelled the placement of a cable box on an apartment building.[93] Although the box was small and did not interfere with the private use of the building, the Court nonetheless found an intentional, permanent physical invasion for which compensation was required.[94] *Loretto* shed light on the "physical invasion" line of cases, in making a clear demarcation between temporary invasions, which are not per se takings,[95] and permanent occupations of property, for which courts "uniformly have found a taking to the extent of the occupation."[96] The reason: "[t]he power to exclude has traditionally been considered one of the most treasured strands in an owner's bundle of property rights."[97] When the government permanently occupies private property, it "does not simply take a single 'strand' from the 'bundle' of property rights: it chops through the bundle, taking a slice of every strand."[98]

Cases where temporary invasion or damage to private property results from a government action, but where the government had no actual intent to damage the property, much less to occupy it, pose the greatest difficulties for courts attempting to distinguish between a tort and a taking. Damages caused by flooding often fall within this legal purgatory. Just as there is no bright-line rule against treating such events as takings, there is no bright-line rule that would treat all flooding "caused by or partially attributable to governmental activities" as takings.[99]

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92. 458 U.S. 419 (1982).

93. *Id.* at 426, 441.

94. *Id.* at 419.

95. *Id.* at 435 n.12; *see id.* at 427–28 (distinguishing *Pumpelly* as a permanent invasion requiring compensation from *Northern Transportation Co. v. Chicago*, 99 U.S. 635 (1879), where a temporary dam installed during the construction of a tunnel did not require compensation).

96. *Id.* at 434 (citing *Penn Central*, 438 U.S. at 124).

> [T]his Court has consistently distinguished between flooding cases involving a permanent physical occupation, on the one hand, and cases involving a more temporary invasion, or government action outside the owner's property that causes consequential damages within, on the other. A taking has always been found *only in the former situation.*

Id. at 428 (emphasis added).

97. *Id.* at 435–36 (citing Kaiser Aetna v. United States, 444 U.S. 164, 179–80 (1979)).

98. *Id.* at 435. "Property rights in a physical thing have been described as the rights 'to possess, use and dispose of it.' To the extent that the government permanently occupies physical property, it effectively destroys *each* of these rights." *Id.* (citation omitted).

99. Nat'l By-Prods., Inc. v. United States, 405 F.2d 1256, 1273 (Ct. Cl. 1969); *see* Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355 (Fed. Cir. 2003); Quebedeaux v. United States, 112 Fed. Cl. 317, 324 (2013) ("The distinction between tort and takings in the flooding cases is not as easy as

Pumpelly v. Green Bay Co.,[100] where the construction of a dam caused a lake to flood the plaintiff's property,[101] represents one of the Supreme Court's earliest assessments of causation in the takings context. *Pumpelly* involved "an almost complete destruction of the value of the land."[102] The Court held that "where real estate is actually invaded by superinduced additions of water, earth, sand, or other material, or by having any artificial structure placed on it, so as to effectually destroy or impair its usefulness, it is a taking, within the meaning of the Constitution."[103] Where a physical occupation of private property constitutes a direct (as opposed to consequential) injury, compensation as a taking is required. In another early case, *Gibson v. United States*,[104] the Court concluded that a government dike that made the plaintiff's landing unusable at certain times of the year was not a compensable taking.[105] The Court explained, "the damage of which [the plaintiff] complained was not the result of the taking of any part of her property, whether upland or submerged, or a direct invasion thereof, but the *incidental consequence* of the lawful and proper exercise of a governmental power."[106] An incidental invasion, in other words, may be a tort, but it is not a taking.

From *Pumpelly* and *Gibson*, we gather that damage to property due to government occupation is compensable as a taking where the occupation is either (1) intentionally accomplished for a public purpose, or (2) the direct result of, and not merely an incidental injury induced by, government action.[107] Of course, this begs the question: What is direct versus incidental? Federal precedent has been anything but definitive.

In *Sanguinetti v. United States*,[108] the Supreme Court found that temporary, increased flooding of private land was not a taking when the land in question had flooded periodically prior to the construction of the offending canal.[109] The plaintiff failed to show that the overflow was the "direct or necessary result" of the canal, within the contemplation of the government, so as to constitute an actual invasion of the land amounting to an appropriation of and not

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saying one flood is a tort and any more than that a taking." (citing Ark. Game & Fish Comm'n v. United States, 648 F.3d 1377, 1382 (Fed. Cir. 2011) (Moore, J., dissenting))).

100. 80 U.S. 166 (1872).
101. *Id.* at 177.
102. *Id.*
103. *Id.* at 181.
104. 166 U.S. 269 (1897).
105. *Id.* at 275.
106. *Id.* (emphasis added).
107. *Id.*; Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355 (Fed. Cir. 2003).
108. 264 U.S. 146 (1924).
109. *Id.* at 149.

merely an injury to the property.[110] Like *Gibson*, *Sanguinetti* drew a distinction between incidental consequences and direct results.[111]

Similarly, in *National By-Products, Inc. v. United States*,[112] the Claims Court dismissed a takings claim where the plaintiff experienced extreme flooding on two occasions after the government constructed a levee on the left bank of a creek without a corresponding levee on the right bank.[113] In building the levee on the left bank, the government did not knowingly induce floods to the plaintiff's right-bank property or take a de facto flowage easement over that property.[114] Nor could the plaintiff show that flooding would inevitably recur.[115] Rather, rainfall had been unusually severe, and the downstream portion of the creek was constricted with debris and silt, creating greater pressure on the plaintiff's right-bank levee.[116] The Claims Court concluded that, where flooding is "the result of a particular 'concatenation of physical conditions' . . . which plaintiff has not shown will continue to occur," an action must lie, if at all, in tort rather than takings.[117]

By contrast, in *United States v. Cress*,[118] the government's construction of a lock and dam was a taking because it subjected the plaintiffs' lands, ford, and mill site to "direct invasion" by frequent "intermittent but inevitably recurring overflows" due to the backwater naturally created by the structure.[119] As in *Cress*, in *United States v. Lynah*,[120] the construction of a dam in such a manner as to alter a stream's natural flow and, "*as the necessary result*," raise the water levels above the dam and overflow the plaintiff's land, made it "an irreclaimable bog," unfit for any agricultural use, resulted in a taking.[121]

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110. *Id.* at 149–50. "[I]t is, at least, necessary that the overflow be the direct result of the structure . . . ." *Id.* at 149.

111. *Id.*

112. 405 F.2d 1256 (Ct. Cl. 1969).

113. *Id.* at 1274–75.

114. *Id.* at 1257.

115. *Id.* at 1274.

116. *Id.* The flooding was partially due to the weakness of plaintiff's own levee, a condition that would not necessarily continue into the future. *Id.*; *see* Jackson v. United States, 230 U.S. 1, 23 (1913) (holding that flooding following the construction of levees at certain points along the river, without building levees in other places, was too remote to be a taking); Hughes v. United States, 230 U.S. 24, 34 (1913) (similar).

117. *Nat'l By-Prods.*, 405 F.2d at 1274 (citing N. Ctys. Hydro-Elec. Co. v. United States, 170 Ct. Cl. 241, 248 (1965)); *see* Ridge Line, Inc. v. United States, 346 F.3d 1346, 1354–55 (remanding a shopping center owner's claim that the government had taken a flowage easement by constructing an adjacent, up-gradient post office that increased stormwater runoff to the center to determine whether increased runoff was the direct result of construction).

118. 243 U.S. 316 (1917).

119. *Id.* at 327–28.

120. 188 U.S. 445 (1903).

121. *Id.* at 469 (emphasis added).

More recently, in *Arkansas Game & Fish*,[122] a landowner, the State Fish and Game Commission, prevailed on its claim that the Corps had physically taken a flowage easement over its land.[123] The case raised a unique set of facts and the decision should be considered a narrow one.

In *Arkansas Game & Fish*, the Corps opted to depart from its Master Water Control Plan ("Master Plan") for the Clearwater Dam by releasing water over longer periods each year during a seven-year period, not because of any physical imperative (unusual amounts of rain or snow) but because farmers urged it to keep their croplands dry for longer periods during the growing season.[124] The deviation caused a dramatic and *inevitably recurring* increase in flooding in a wildlife area owned by the State, causing widespread and permanent damage to its trees.[125] The Commission established that the flooding was significant enough, for long enough periods, to change the character of the area and substantially interfere with the ability to use its land.[126] It also established that the Corps's flooding of its land was the direct cause of the predictable—indeed, predicted—destruction of the property.[127] The Corps deviated from its Master Plan in order to benefit the farmers, even when it had been put on notice that the deviation would inevitably destroy the State's land.[128] According to the Supreme Court, the Corps had effectively taken title to the land without paying for it and without going through the appropriate processes for exercising its power of eminent domain.[129] The Corps intentionally created winners and losers, and the Supreme Court forced it to pay the losers.

The government took the extreme position in *Arkansas Game & Fish* that a temporary flooding of land could *never* constitute a taking of property.[130] The Court flatly rejected this argument.

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122. 736 F.3d 1364 (Fed. Cir. 2013).
123. *Id.* at 1372.
124. *Id.* at 1368.
125. *Id.*
126. *Id.* at 1371.
127. *Id.*
128. *Id.* at 1373–74.
129. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 519 (2012). A professor's amicus brief pointed out that, under Arkansas law, the plaintiff had no vested entitlement to unaltered river flows in view of the legal rights of other riparian owners, such as the Corps, to modify the flow for their own reasonable needs. Abrams & Bertelsen, *supra* note 9, at 24 n.139. At the very least, a takings claimant should be required to show that the government's actions produced effects that exceeded what was already permitted under state water law. *See* Sanguinetti v. United States, 264 U.S. 146, 149 (1924) (dismissing a takings claim where, prior to construction, the land had been subject to the same periodic overflow). The Court acknowledged the potential relevance of this issue but ruled that it had been waived. *Ark. Game & Fish*, 133 S. Ct. at 522 n.1.
130. *Ark. Game & Fish*, 133 S. Ct. at 519–20.

Instead, it held that a temporary invasion can be a taking, but it is not a per se taking.[131] Rather, such claims "turn on situation-specific factual inquiries" with reference to the "particular circumstances of each case."[132]

According to the Court, government-induced flooding must cause "sustained and substantial damage—if not permanent flooding, then at the very least it must result in a 'permanent liability to intermittent but inevitably recurring overflows.'"[133] The Court reasoned that "direct and immediate interference"[134] with private property through inevitably recurring flooding gives rise to a takings claim "no less valid than the claim of an owner whose land was continuously kept under water."[135] Conversely, isolated incidents may constitute a tort but do not rise to the level of a taking.[136]

The *Arkansas Game & Fish* Court identified relevant factors that bear on the inquiry: (1) the duration of the flooding; (2) whether the invasion is intended or is the foreseeable result of authorized government action; (3) the character of the land at issue and the owner's reasonable investment-backed expectations regarding the land's use; and (4) the severity of the interference.[137] With the caveat on foreseeability discussed below, all of these factors appear in other takings cases except the third: "the character *of the land* at issue."[138] The traditional third factor in the *Penn Central* balancing test for takings analyses is "the character of the *governmental*

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131. *Id.*

132. *Id.* at 518, 522; Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978) (citations omitted).

133. Nicholson v. United States, 77 Fed. Cl. 605, 616 (2007) (quoting United States v. Cress, 243 U.S. 316, 328 (1917)). In *Portsmouth Harbor Land & Hotel Co. v. United States*, 260 U.S. 327 (1922), the Court found that a taking would occur only if the government acted "with the purpose and effect of subordinating [plaintiff's] land . . . to the right and privilege of the Government to fire projectiles directly across it." *Id.* at 329. It added: "[E]ven when the intent . . . is not admitted, while a single act may not be enough, a continuance of them in sufficient number and for a sufficient time may prove it." *Id.* at 329–30.

134. *Ark. Game & Fish*, 133 S. Ct. at 519 (quoting United States v. Causby, 328 U.S. 256, 266 (1946)).

135. *Id.* at 519.

136. *Id.*; Ridge Line, Inc. v. United States, 346 F.3d 1346, 1357 (Fed. Cir. 2003); Big Oak Farms, Inc. v. United States, 105 Fed. Cl. 48, 53–54 (2012); *see In re* Tenn. Valley Auth. Ash Spill Litig., 805 F. Supp. 2d 468, 492–95 (E.D. Tenn. 2011) (finding that the presence of coal ash spilled on the plaintiffs' land failed to diminish plaintiffs' rights substantially enough for a taking, where the Tennessee Valley Authority did not engage in deliberate conduct directed at the plaintiffs' land, but allowing various tort claims to proceed).

137. *Ark. Game & Fish*, 133 S. Ct. at 522.

138. *See, e.g., id.*

action."[139] Throughout the past century of Fifth Amendment jurisprudence, the Court has emphasized, "[i]t is the character of the invasion, not the amount of damage resulting from it . . . that determines the question whether it is a taking."[140] The *Arkansas Game & Fish* Court cited *Penn Central*, but inexplicably left this elemental factor out.[141]

As to the character of the government action being challenged—the nature of the alleged "invasion"—*Penn Central* directs courts to consider "[t]he purposes served, as well as the effects produced," to inform the analysis: "[A] use restriction on real property may constitute a 'taking' if not reasonably necessary to the effectuation of a substantial public purpose . . . or perhaps if it has an unduly harsh impact upon the owner's use of the property."[142] Although *Penn Central* involved regulatory restrictions, temporary physical invasions invoke the same analytical elements.[143]

In *Arkansas Game & Fish*, the Court should have considered the character of the Corps's action in light of the degree and severity of flooding and the need to maximize benefits and minimize harms from the Clearwater Dam.[144] If it had, it may have noted that Congress authorized the flood control program that led to the construction of the Clearwater Dam after the Great Flood of 1927, which stimulated extensive federal involvement in flood control to benefit and protect floodplain owners throughout the Mississippi

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139. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 124 (1978) (emphasis added); *see* Palazzolo v. Rhode Island, 533 U.S. 606, 617 (2001) ("Where a regulation places limitations on land that fall short of eliminating all economically beneficial use, a taking nonetheless may have occurred, depending on a complex of factors including the regulation's economic effect on the landowner, the extent to which the regulation interferes with reasonable investment-backed expectations, *and the character of the government action*." (emphasis added) (citing *Penn Cent.*, 438 U.S. at 104)); Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 485 (1987) (finding no taking where "the character of the governmental action . . . [was] to arrest . . . a significant threat to the common welfare").

140. *Penn Cent.*, 438 U.S. at 149 (quoting United States v. Cress, 243 U.S. 316, 328 (1917)); *see* Saint Bernard Par. Gov't v. United States, 121 Fed. Cl. 687, 738 (2015).

141. *Ark. Game & Fish*, 133 S. Ct. at 518.

142. *Palazzolo*, 533 U.S. at 634 (O'Connor, J., concurring) (citing *Penn Cent.*, 438 U.S. at 127).

143. *Ark. Game & Fish*, 133 S. Ct. at 522; Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 321 (2002); *Palazzolo*, 533 U.S. at 632–33; *Cress*, 243 U.S. at 328.

144. *Ark. Game & Fish*, 133 S. Ct. at 522; *see* John Echeverria, *The "Character" Factor in Regulatory Takings Analysis*, SK081 ALI-ABA 143, 146 (2005) (stating that outside the per se takings context, "the traditional *Penn Central* analysis—including the 'character' factor—continues to reign supreme").

River Basin (including part of Arkansas).[145] The same piece of legislation included the sovereign immunity provision that would have defeated the plaintiffs' claim had it been characterized as a tort rather than a taking.[146]

Unfortunately, the strategy adopted by the government in defending this case, i.e., temporary inundations are never takings, meant that several of the key issues were not preserved for review.[147] As a result, the opinion on remand focused narrowly on foreseeability and the extent of damage to the State's land.[148]

To compound the problem, the lower courts got it wrong, particularly with respect to foreseeability. On remand in *Arkansas Game & Fish*, the Federal Circuit affirmed the original Claims Court decision that found a taking of the State's property because the Corps "*could have* foreseen that the series of deviations approved during the 1990s would lead to substantially increased flooding of the Management Area and, ultimately, to the loss of large numbers of trees there."[149] In finding that the Corps "*could have* foreseen" that its actions "would lead to substantially increased flooding," the Federal Circuit effectively transformed takings law into negligence law,[150] and it appears to have applied an even lower threshold than would be demanded by proximate cause. Foreseeability, whether in tort or takings, but particularly in the takings context, requires more than just a *possibility* of some risk of

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145. Abrams & Bertelsen, *supra* note 9, at 30 n.184 (citing 33 U.S.C. § 702c (2012)); *see* Christine A. Klein & Sandra B. Zellmer, *Mississippi River Tragedies: A Century of Unnatural Disasters*, 60 SMU L. REV. 1471, 1485–87 (2007).

146. *See* United States v. James, 478 U.S. 597, 602–03 (1986) ("[I]n enacting § 702c as part of the Flood Control Act of 1928, 'Congress was concerned with allocating the costs of a major public works program between the federal government and the state and local interests, both public and private, in the wake of a financial, administrative, and engineering debacle [from the great Mississippi River flood of 1927].'" (quoting James v. United States, 760 F.2d 590, 596 (5th Cir. 1985))); *supra* text accompanying notes 70–74 (discussing the Flood Control Act's immunity provision).

147. Ark. Game & Fish Comm'n v. United States, 637 F.3d 1366, 1375 (Fed. Cir. 2011) ("[T]emporary conditions cannot result in the taking of a flowage easement."), *rev'd*, 133 S. Ct. 511 (2012); Abrams & Bertelsen, *supra* note 9, at 10.

148. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1370–81 (Fed. Cir. 2013).

149. *Id.* at 1373 (emphasis added).

150. *Id.* at 1372–73 (emphasis added); *see* Abrams & Bertensen, *supra* note 9, at 11 (concluding that the result "transmutes flooding case takings law into a determination that closely tracks the elements of tort recovery"). Arguably, the test applied by the Federal Circuit would not even rise to the level of proximate cause in a tort case. *See* Palsgraf v. Long Island R.R. Co., 162 N.E. 99, 101 (N.Y. 1928) (finding the chain of causation too attenuated when railroad employees dislodged a package from a passenger's hands and the package exploded, toppling a set of scales at the opposite end of the platform such that they fell on another passenger).

harm; at the very least, the injury to the property must be the predictable and probable consequence of the government's act.[151]

In *Big Oak Farms, Inc. v. United States*,[152] a case that preceded *Arkansas Game & Fish*, the Claims Court carefully distinguished torts from takings by demanding more than a mere possibility of incidental harm to establish a taking.[153] There, landowners who owned parcels located within the Birds Point-New Madrid Floodway on the Mississippi River alleged that the Corps took their property without just compensation when the Corps activated the floodway by intentionally breaching the levee that protected their property, causing flood damage to their land and crops, as well as leaving behind detrimental sand and gravel deposits.[154] The Corps had purchased flowage easements for most of the floodway, but plaintiffs claimed that the damage exceeded the scope of the easements.[155] The court explained that a property loss is compensable as a taking only if the government intends to invade a protected property interest, or if the asserted invasion is the direct, natural, or probable result of, and not the incidental injury inflicted by, the government action.[156] Moreover, the government's invasion must appropriate a benefit to the government at the expense of the property owner, or at least preempt the owner's right to enjoy his property for an extended period of time.[157] In the end, the floodway plaintiffs failed to demonstrate that the Corps's interference with their property rights was substantial and frequent enough to rise to that level.[158] "Rather, the sand and gravel deposits and attendant flooding are tortious 'injur[ies] that reduce[] [the] value' of plaintiffs' farmland, but do not appropriate it for government use."[159] Because the plaintiffs raised de facto tort claims rather than takings claims, the court found that the Flood Control Act immunized the government

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151. *See, e.g.*, John Horstmann Co. v. United States, 257 U.S. 138, 145–46 (1921); Moden v. United States, 404 F.3d 1335, 1343 n.2 (Fed. Cir. 2005); Ridge Line, Inc. v. United States, 346 F.3d 1346, 1356 (Fed. Cir. 2003); *see also* Cotton Land Co. v. United States, 75 F. Supp. 232, 233–35 (Ct. Cl. 1948) (concluding that, when loss due to flooding "resulted *naturally* from the [government] improvement" (a dam), it was not a mere consequential injury but could be treated as a taking; "if engineers had studied the question in advance they *would*, we suppose, have predicted what occurred" (emphasis added)); foreseeability discussion *infra* notes 239–45 and accompanying text.

152. 105 Fed. Cl. 48 (2012).

153. *Id.* at 53–54.

154. *Id.* at 50.

155. *Id.* at 52.

156. *Id.* at 56–59.

157. *Id.* at 58–59.

158. *Id.* at 59.

159. *Id.* (citing Ridge Line, Inc. v. United States, 346 F.3d 1346, 1356 (Fed. Cir. 2003)).

from liability arising from damages associated with operation of the floodway.[160]

Just a year later, in *Quebedeaux v. United States*,[161] the same court discounted *Big Oak Farms* because that case was handed down before the Supreme Court's decision in *Arkansas Game & Fish*.[162] The *Quebedeaux* court opined that, with the guideposts provided by the Supreme Court, "a different decision [in *Big Oak Farms*] would have been reached."[163] However, *Quebedeaux* was a different kind of case entirely.

Quebedeaux involved property within the Morganza Floodway, which is part of a comprehensive federal system of levees, dams, and other installations designed to control floods on the Mississippi River.[164] During extreme flood events, the Morganza Spillway can be opened to divert water through the Morganza Floodway from the Mississippi into the Atchafalaya River Basin.[165] During the 2011 flood, the Corps opened the Morganza Spillway to prevent flooding downriver and to protect the levees in Baton Rouge and New Orleans.[166] As a consequence, the Morganza Floodway property owners were inundated with water for nearly two months, damaging crops, farms, homes, businesses, oil and gas wells, and other real and personal property.[167] Plaintiffs alleged that the Corps's intentional diversion of water onto the Morganza Floodway constituted "an ongoing, continuous and permanent physical taking" of their property, and that the existence of the comprehensive flood control system evidenced the government's "permanent commitment to the intermittent, but inevitably recurring, flooding of plaintiffs' property and businesses," thereby effectively reserving a federal flowage easement over the affected property.[168]

The *Quebedeaux* court declined to adopt a bright-line rule according to which "a single flooding event may not give rise to a takings," as the government had urged it to do.[169] According to *Quebedeaux*, "Counting floods is not the controlling consideration. The question, rather, is whether defendant has appropriated an interest for itself in the subject property—and that inquiry requires an examination of multiple factors, certainly beyond whether actual flooding has occurred once, twice, or even a dozen times."[170] Even a

160. *Id.* at 53.
161. 112 Fed. Cl. 317 (2013).
162. *Id.* at 325 n.10.
163. *Id.*
164. *Id.* at 319.
165. *Id.*
166. *Id.*
167. *Id.* at 319–20.
168. *Id.* at 320.
169. *Id.* at 323, 325.
170. *Id.* at 324.

single flooding event can be treated as a taking if that event evidences the government's intent to appropriate an interest in the property.[171] Accordingly, the *Quebedeaux* court remanded the case to provide plaintiffs with the opportunity to develop facts in support of their claims.[172]

The problem lies not only in the *Arkansas Game & Fish* opinion on remand and the *Quebedeaux* case that followed *Arkansas Game & Fish*, but in the Federal Circuit's continuing failure to draw a clear distinction between foreseeability for purposes of tort liability and foreseeability for purposes of takings liability. In *Hansen v. United States*,[173] the court lamented the serpentine case law:

> The fact that the law of takings and the law of property torts share common origins renders problematic any argument that tort and takings claims can never arise from the same common facts. Indeed, because tort "pervades the entire law, and is so interlocked at every point with property, contract and other accepted classifications," "the student of law soon discovers [that] the categories are quite arbitrary."[174]

As the *Hansen* court pointed out, "every taking that involves invasion or destruction of property is [also] by definition tortious."[175] Yet "not all torts are takings."[176] Indeed, most cases involving property damage will not be takings, but instead only torts.[177]

> [T]he flooding cases seem to focus on periodicity only as one indication as to whether defendant has appropriated an interest for itself in the affected property. While a single flooding may indicate that such an interest has not been taken, that conclusion depends upon whether the flooding was truly an "[i]solated invasion," as opposed to an event that characterizes a "permanent liability to intermittent but inevitably recurring overflows."

Id. at 323 (citation omitted).

171. *Id.* at 324.

172. *Id.* at 325 (citing Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 522 (2012)); *see* Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 435 n.12 (1982) ("[A]s . . . the intermittent flooding cases reveal, [] temporary limitations are subject to a more complex balancing process."); Krier & Sterk, *supra* note 10, at 56 (stating that temporary invasions are takings only if the *Penn Central* factors weigh against the government).

173. 65 Fed. Cl. 76 (2005).

174. *Id.* at 101 (citing W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS 2 (5th ed. 1984)).

175. *Id.*

176. *Id.*

177. *Id.*; *see Quebedeaux*, 112 Fed. Cl. at 324 ("[T]he distinction between tort and takings in the flooding cases is not as easy as saying one flood is a tort and any more than that a taking." (citing Ark. Game & Fish Comm'n v. United States, 648 F.3d 1377, 1382 (Fed. Cir. 2011) (Moore, J., dissenting))); *see also* Nat'l By-Prods. v. United States, 405 F.2d 1256, 1273 (Ct. Cl. 1969) ("The distinction between 'permanent liability to intermittent but inevitably recurring overflows', and occasional floods induced by government projects . . . is, of

In passing the immunity provision of the Flood Control Act,[178] Congress was aware that most downstream losses caused by postconstruction flood control actions would go uncompensated.[179] Specifically, Representative Snell stated: "I want this bill so drafted that it will contain all the safeguards necessary for the Federal Government. . . . I for one do not want to open up a situation that will cause thousands of lawsuits for damages against the Federal Government in the next 10, 20, or 50 years."[180] The immunity provision reflects Congress's reluctance to take any steps to commit the federal government to flood control in the early twentieth century. Federal involvement in navigation had been recognized as squarely within the Commerce Clause powers,[181] with flood control seen as a state and local concern, until a series of devastating floods in the 1920s persuaded Congress to get involved with federal expertise and resources for flood control on the condition that federal liability be limited.[182]

Given Congress's clear intention to provide blanket tort immunity for damages arising from federal flood control efforts, when courts allow flood-related tort claims to proceed under the guise of takings claims, they intrude on the "zone of sovereign immunity" that Congress explicitly refused to surrender.[183] Also, because waivers of sovereign immunity are read narrowly,[184] the government's action must inevitably lead to recurring flooding to avoid dismissal as a tort claim.[185]

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course, not a clear and definite guideline." (quoting United States v. Cress, 243 U.S. 316, 328 (1917))).

178. 33 U.S.C. § 702c (2012).

179. *See id.*

180. Abrams & Bertelsen, *supra* note 9, at 19–20 (citing 69 CONG. REC. 6641 (1928) (statement of Rep. Snell)).

181. Gibbons v. Ogden, 22 U.S. 1, 2 (1824).

182. Sandra B. Zellmer, *A Tale of Two Imperiled Rivers: Reflections from a Post-Katrina World*, 59 FLA. L. REV. 599, 601 (2007); *see supra* notes 144–45 and accompanying text (regarding Clearwater Dam).

183. Abrams & Bertelsen, *supra* note 9, at 20; *see* John Echeverria, *Takings and Errors*, 51 ALA. L. REV. 1047, 1093 (2000) (arguing that treating erroneous government actions as takings masks the tension between "the strong historical traditions supporting the various immunity doctrines" and the desire to provide a remedy to aggrieved plaintiffs).

184. *See* United States v. Nordic Vill., Inc., 503 U.S. 30, 33–34 (1992) (stating that waivers of immunity must be "unequivocally expressed"; "the Government's consent to be sued 'must be "construed strictly in favor of the sovereign," and not "enlarge[d] . . . beyond what the language requires"'" (citations omitted)).

185. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 518–19 (2012) (citing United States v. Cress, 243 U.S. 316, 328 (1917)); *see* Barnes v. United States, 538 F.2d 865, 870–73 (Ct. Cl. 1976) (finding a taking of a flowage easement resulting from frequent and inevitably recurring flooding as the natural consequence of government control of a river's flow through a nearby dam).

According to a leading Supreme Court case on temporary physical takings, *United States v. Causby*,[186] "it is the character of the invasion, not the amount of damage resulting from it, so long as the damage is substantial, that determines the question whether it is a taking."[187] The very nature of a taking, versus a tort, supplies the foundation for this critical distinction. As an element of a takings claim based on a physical intrusion or occupation of property, intent helps discern whether government actions are "tantamount to appropriations of private property for a public purpose."[188]

> [W]here compensation is sought for injuries caused by physical invasions or occupations of property, the intent element of a takings claim is fundamental in distinguishing between those actions that are the equivalent of an exercise of eminent domain and those that are actionable as ordinary torts. *The power of eminent domain is affirmative in nature. It is a power exercised for a particular purpose—the public's benefit—and intentionally.*[189]

The following Subpart raises an alternative mode of analysis for distinguishing torts from takings that could sharpen the distinction between the two, do a better job of fulfilling the burden-alleviating objective of the takings doctrine, and lead to more predictable and constitutionally coherent results in takings cases.[190]

C. Substantial Certainty as Benchmark

An array of decisions by the federal courts have sown the seeds of confusion by failing to clearly delineate the tort-takings distinction and, in too many cases, by misapplying the relevant concepts of intent and foreseeability. Courts agree that "accidental, unintended injuries inflicted by governmental actors are treated as

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186. 328 U.S. 256 (1946).

187. *Id.* at 266.

188. Dunn v. City of Milwaukie, 328 P.3d 1261, 1270 (Or. 2014); *see* Portsmouth Harbor Land & Hotel Co. v. United States, 260 U.S. 327, 329–30 (1922) (finding that intent can be implied, for purposes of a taking, through a series of recurring trespasses); Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355 (Fed. Cir. 2003) ("[N]ot every 'invasion' of private property resulting from government activity amounts to an appropriation.").

189. *Dunn*, 328 P.3d at 1270 (emphasis added) (citing *In re* Chi., Milwaukee, Saint Paul & Pac. R.R. Co. v. United States, 799 F.2d 317, 325–26 (7th Cir. 1986)); *see* Nat'l Bd. of Young Men's Christian Ass'ns v. United States, 395 U.S. 85, 93–94 (1969) (finding that damage to a building used as a military command post during an insurrection was not a taking); Keokuk & Hamilton Bridge Co. v. United States, 260 U.S. 125, 127 (1922) (finding that damage to a bridge caused by the government's blasting was not a taking).

190. *See* Aaronson v. United States, 79 F.2d 139, 139–41 (D.C. Cir. 1935) (explaining how the Takings Clause strives to accomplish equity between the property owner, the government, and the public).

torts, not takings,"[191] and that "but for" causation as applied in ordinary tort cases is not sufficient for takings claims.[192] Beyond that, the cases run the gamut. Following the decision on remand in *Arkansas Game & Fish*, the line between torts and takings has become even murkier.[193] Yet the Supreme Court did not envision a sea change in takings law in its decision in *Arkansas Game & Fish*: "We rule today, simply and only, that government-induced flooding temporary in duration gains no automatic exemption from Takings Clause inspection."[194] However, by applying a test based on mere probability, a sea change seems to be precisely what the Federal Circuit spawned on remand.[195]

Prior to the remand in *Arkansas Game & Fish*, courts struggling with the distinction between tort claims and takings claims often referred to a "direct, natural, or probable result" test for takings claims.[196] It was not always altogether clear what this phrase meant exactly or whether it was intended to be disjunctive or conjunctive, but there are good reasons that the phrase should be construed similarly to the "substantial certainty" test for intentional torts.

Looking to the nature of the Takings Clause, the most obvious takings—seizures and appropriations of property—involve purposeful government conduct undertaken for a particular public use.[197] When the takings doctrine is being extended to temporary occupations, courts should insist on proof of a purposeful act

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191. *In re Chi., Milwaukee, St. Paul & Pac. R.R. Co.*, 799 F.2d at 326.

> [I]f planes owned by the government regularly overfly a farm, causing the chickens to kill themselves in fright, this planned operation may "take" an easement across the farm. But if a stray military plane crashes into a chicken coop, killing an equal number of fowl, this is a tort rather than a taking . . . .

Id. at 326 (citing *Causby*, 328 U.S. at 256).

192. *Hansen v. United States*, 65 Fed. Cl. 76 (2005), is an outlier. In finding that "but for" causation sufficed for a takings claim, the court argued that requiring intent would be a throwback to pre-Tucker Act jurisprudence, when plaintiffs cast their takings claims (over which the Claims Court did not yet have jurisdiction) as implied-in-fact contract claims (over which the court did have jurisdiction). *Id.* at 106–10. As *Hansen* noted, post-Tucker Act cases de-emphasized the role of intent, but the *Hansen* court went beyond de-emphasis—its approach would utterly eradicate intent. *Id.* at 111. *See infra* notes 254–58.

193. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1372–74 (Fed. Cir. 2013).

194. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 522 (2012).

195. *Ark. Game & Fish*, 736 F.3d at 1373–74.

196. Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355 (Fed. Cir. 2003).

197. *See* Haw. Hous. Auth. v. Midkiff, 467 U.S. 229, 242–43 (1984) (finding that Hawaii's land condemnation scheme that transferred title to real property from lessors to lessees in order to reduce concentration of land ownership satisfied the "public use" requirement of the Fifth Amendment); Mo. Pac. R.R. Co. v. Nebraska, 164 U.S. 403, 416 (1896) (invalidating a condemnation order for lack of a justifying public purpose).

undertaken to accomplish a public use, so that takings law remains true to its constitutional objectives.[198] The requirement that a taking be for public use precludes takings claims premised on erroneous government actions and government actions with unintended consequences.[199]

Where actual purpose or intent cannot be proven, the threshold for a constitutional taking, as for intentional torts, should be a substantial certainty that the particular consequence (damage to specified private property) will result.[200] The familiar distinction between negligence and intentional torts is useful in drawing a distinction between negligence and takings.[201] Intentionally taking a risk that some consequence may occur is not the same as having a purpose or a substantial certainty that the consequence will result.[202] As discussed more fully below, substantial certainty is less than actual knowledge, or even absolute certainty, but more than simple probability.[203]

Admittedly, substantial certainty is not an especially easy standard to apply,[204] but it is no more slippery than

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198. *See* Lingle v. Chevron U.S.A. Inc., 544 U.S. 528, 539 (2005) (noting that excessively burdensome regulations, like permanent invasions that eviscerate an owner's right to exclude others—"perhaps the most fundamental of all property interests"—are the "[functional] equivalent" of direct seizures and appropriations); Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1014 (1992) (noting that, prior to the early twentieth century, "it was generally thought that the Takings Clause reached only a 'direct appropriation' of property, or the functional equivalent of a 'practical ouster of [the owner's] possession'" (citations omitted)).

199. *See* Echeverria, *supra* note 183, at 1049 (arguing that an erroneous government action can never be a compensable taking for "public use").

200. Andrea L. Peterson, *The Takings Clause: In Search of Underlying Principles Part II—Takings as Intentional Deprivations of Property Without Moral Justification*, 78 CALIF. L. REV. 53, 83 (1990).

201. In addition to common law tort claims, courts are called on to distinguish between intent and negligence (or recklessness) in workers' compensation, insurance, and bankruptcy cases. Kenneth W. Simons, *A Restatement (Third) of Intentional Torts?*, 48 ARIZ. L. REV. 1061, 1080 (2006). Also, the government's sovereign immunity shields it from liability for intentional torts, despite waivers of immunity for fault-based torts. *Id.*

202. DOBBS, *supra* note 56, at 396–97; *see* Taylor v. Vallelunga, 339 P.2d 910, 911–12 (Cal. Dist. Ct. App. 1959) (dismissing an intentional infliction of distress claim where plaintiff failed to allege that defendants knew she was present while beating her father because there was no evidence they acted with purpose or substantial certainty of causing her distress); Garratt v. Dailey, 279 P.2d 1091, 1095 (Wash. 1955) (remanding an intentional tort claim for a finding of whether a boy, in moving a chair, knew with substantial certainty that plaintiff would attempt to sit down where the chair had been).

203. *See infra* notes 247–53.

204. *See* Anthony J. Sebok, *Purpose, Belief, and Recklessness: Pruning the* Restatement (Third)*'s Definition of Intent*, 54 VAND. L. REV. 1165, 1170, 1173 (2001) (opining that substantial certainty "resembles no intuitively familiar mental state and is famously difficult to explain to skeptical first year students").

foreseeability.[205] Like foreseeability, the substantial certainty standard "serve[s], however imperfectly, the practical needs of litigation,"[206] and, in particular, takings litigation because it serves as a proxy for intent.

A number of state courts employ substantial certainty as a benchmark for takings claims where purposeful intent cannot be shown.[207] The Oregon Supreme Court, for example, applies a relatively clear test in requiring claimants attempting to establish the requisite intent to appropriate property to show that the consequences of the government's action are "necessary, inevitable, or substantially certain to result."[208] It is not enough to establish a cause-in-fact relationship; the result must follow with a high degree of certainty, not just as one of many possible consequences that may or may not follow from the government's action.[209] A substantially certain consequence is one that will ordinarily and directly follow—"the necessary or inevitable result of undertaking a particular act."[210]

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205. *See* W. Jonathan Cardi, *Purging Foreseeability*, 58 VAND. L. REV. 739, 740 (2005) ("For those responsible for understanding tort doctrine, the concept of foreseeability is a scourge, and its role in negligence cases is a vexing, crisscrossed morass.").

206. Sebok, *supra* note 204, at 1174 (citing James A. Henderson, Jr. & Aaron D. Twerski, *Intent and Recklessness in Tort*, 54 VAND. L. REV. 1133, 1136 (2001)).

207. *See* Robinson v. City of Ashdown, 783 S.W.2d 53, 56 (Ark. 1990) ("[W]hen one knows that an invasion of another's interest in the use and enjoyment of land is substantially certain to result from one's conduct, the invasion is intentional.") ;Collins v. Olin Corp., 418 F. Supp. 2d 34, 53 (D. Conn. 2006) (stating that the government must either act for the purpose of causing the harm or know that the harm is substantially certain to); Electro–Jet Tool & Mfg. Co. v. City of Albuquerque, 845 P.2d 770, 777 (N.M. 1992) (holding "knowledge that the damage was substantially certain to result" to be a sufficient basis for a takings claim); State v. Beasley, 903 N.E.2d 1196, 1203 (Ohio 2009) (acting "with knowledge amounting to a substantial certainty that its conduct would cause such damage" can be a taking); Harris Cty. Flood Control Dist. v. Kerr, 499 S.W.3d 793, 800 (Tex. 2016) (applying "substantial certainty" to a takings claim arising from flooding); *see also* Miller v. Mayor of Morristown, 20 A. 61, 63 (N.J. 1890) (specifying that takings liability may be imposed for "natural and inevitable" consequences); Great N. Ry. Co. v. State, 173 P. 40, 42–43 (Wash. 1918) (stating that a taking arises where damage is the "necessary" result of government activity).

208. Dunn v. City of Milwaukie, 328 P.3d 1261, 1270–71 (Or. 2014).

209. *Id.* at 1271.

210. *Id.* While *Dunn* examined a claim arising under Oregon law, the court explained that "a test that looks to the inevitability or certainty with which particular results will follow from particular government action appears consistent with the way that the natural and ordinary consequences has been understood by courts in general, and federal courts in particular." *Id.* at 1271–72; *see* Jed Michael Silversmith, *Takings, Torts & Turmoil: Reviewing the Authority Requirement of the Just Compensation Clause*, 19 UCLA J. ENVTL. L. & POL'Y 359, 379–83 (2001) (noting that the "natural and probable consequences" test, as used in takings cases for over a century, turns on

In *Harris County Flood Control District v. Kerr*,[211] the Texas Supreme Court dispensed with claims similar to those brought by the Missouri River floodplain owners.[212] About four hundred homeowners whose homes suffered damage during storms in 1998, 2001, and 2002 alleged that Harris County had taken their property by approving unmitigated development upstream without implementing a previously approved flood control plan.[213] In an attempt to prove that the incident was a taking and not ordinary negligence, plaintiffs' expert testified that the development "was substantially certain to result in increased flooding along the bayou *in the vicinity of* the Plaintiffs' properties."[214] In rejecting their claims, the court explained that substantial certainty is a more discrete inquiry with a much higher threshold: plaintiffs must show that the government was aware that its specific act "is causing *identifiable* harm"—i.e., "*specific property damage*"—to "*certain* private property."[215] Proof of "mere negligent conduct" on the part of the government does not suffice.[216]

The *Harris County* court held that there can be no taking "where the government only knows that someday, somewhere, its performance of a general governmental function, such as granting permits or approving plats, will result in damage to some unspecified parcel of land within its jurisdiction."[217] As a practical matter, governments "cannot be expected to insure against every misfortune occurring within their geographical boundaries. . . . No government could afford such obligations."[218]

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certainty—i.e., could the government ascertain "to a certainty" that the destruction of plaintiff's property would result).

211. 499 S.W.3d 793 (Tex. 2016).

212. Complaint, *supra* note 3, at 6–7.

213. *Harris Cty. Flood Control Dist.*, 499 S.W.3d at 796-97. Plaintiffs' claims arose under the Texas takings clause, article I, section 17. *Id.* at 799.

214. *Id.* at 798 (emphasis added).

215. *Id.* at 800 (citations omitted).

216. *Id.* at 799.

217. *Id.* at 800; *see also* City of Austin v. Liberty Mut. Ins., 431 S.W.3d 817, 826 (Tex. App. 2014) (holding that damage to property due to a fire, ignited when power lines came into contact during high winds, was not a "substantially certain consequence" of a decision to discontinue power line inspections); *cf. Bd. of Water Works Trs. of Des Moines v. Sac Cty. Bd. of Supervisors*, No. 16-0076, 2017 WL 382402, at *15–16 (Iowa Jan. 27, 2017) (dismissing takings claims against drainage districts that permitted nitrate-laden runoff to exceed water quality standards); Fromm v. Vill. of Lake Delton, 847 N.W.2d 845, 853–54 (Wis. Ct. App. 2014) (finding that the failure to act on knowledge about the relative elevations of plaintiff's property and a government dam to prevent flooding during heavy rainstorms did not support a takings claim).

218. *Harris Cty. Flood Control Dist.*, 499 S.W.3d at 804; *see id.* at 804 n.7 ("[W]hile the Constitution protects against invasions of individual rights, it is not a suicide pact." (citing Kennedy v. Mendoza–Martinez, 372 U.S. 144, 160 (1963))); *see also* Terminiello v. City of Chicago, 337 U.S. 1, 37 (1949) (Jackson, J., dissenting) ("[I]f the Court does not temper its doctrinaire logic with a little

Prior to the *Arkansas Game & Fish* opinion on remand,[219] some federal courts demanded similar proof to allow physical takings claims to proceed. Instead of "substantial certainty," however, these courts typically required plaintiff to show that the damage to property was the direct, natural, and/or probable result of the government's act.[220] In other words, the claimant's harm must be the predictable, necessary, inevitable consequence of the act.[221]

For instance, in *Columbia Basin Orchard v. United States*,[222] the government diverted water into a lake at the same time as an unusually heavy rainfall, and the lake then overflowed and contaminated an irrigation source.[223] The Claims Court found that the resulting damage to plaintiff's trees was not the "direct, natural, or probable result of the [government's] action, but rather the incidental and consequential result of the [government's] authorized activity," and dismissed the takings claim.[224]

As the Federal Circuit explained in *Cary v. United States*,[225] "[t]aking a calculated risk, or even increasing a risk of a detrimental result, does not equate to making the detrimental result direct, natural, or probable."[226] There, claimants alleged a taking when a wildfire that originated on a National Forest spread to adjacent

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practical wisdom, it will convert the constitutional Bill of Rights into a suicide pact.").

219. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1372–73 (Fed. Cir. 2013).

220. Moden v. United States, 404 F.3d 1335, 1343 (Fed. Cir. 2005); Bagwell v. United States, 21 Cl. Ct. 722, 725–26 (1990) (citing Columbia Basin Orchard v. United States, 132 F. Supp. 707, 709 (Ct. Cl. 1955)); *see also* Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355–56 (Fed. Cir. 2003); Barnes v. United States, 538 F.2d 865, 871 (Ct. Cl. 1976); N. Ctys. Hydro-Elec. Co. v. United States, 170 Ct. Cl. 241, 276 (1965). Although some of these courts expressed the standard as "direct, natural, *or* probable," the holdings make it clear that probability alone does not suffice. *See, e.g.*, L.L. Richard v. United States, 282 F.2d 901, 904 (Ct. Cl. 1960) (requiring claimants to show that seepage upon their land was "the natural and probable consequence of the [government's] acts").

221. *Moden*, 404 F.3d at 1343 ("[P]laintiff must prove that the government *should have* predicted or foreseen the resulting injury." (emphasis added)); *see also* Jacobs v. United States, 290 U.S. 13, 15–16 (1933) (finding a taking following failed negotiations for a flowage easement where the United States "contemplated" flowage of farmland upon construction of a federal dam).

222. 132 F. Supp. 707 (Ct. Cl. 1955).

223. *Id.* at 708.

224. *Id.* at 711; *see also* Sanguinetti v. United States, 264 U.S. 146, 147 (1924) (dismissing a takings claim absent proof that flooding was "the direct or necessary result of the structure"); John Horstmann Co. v. United States, 257 U.S. 138, 146 (1921) (dismissing a takings claim where the damage resulting from the government's actions "could not have been foreseen or foretold"); Vansant v. United States, 75 Ct. Cl. 562, 566 (1932) ("A taking . . . must have been an intentional appropriation of the property to the public use . . . .").

225. 552 F.3d 1373 (Fed. Cir. 2009).

226. *Id.* at 1378.

property.[227] The property damage was not the direct, natural, or probable result of forest management policies when "there [was] no concrete beginning, but merely a long sequence of decisions, some risk-increasing but others risk-decreasing, spread out over decades."[228] In the damaged area, wildfires are foreseeable—and even "an unavoidable fact of life"—that "frequently and predictably occur."[229] Although the fuel load had grown since the government began a policy of fire suppression nearly a century earlier, it was not enough to allege that a foreseeable risk of damage arose from the accumulation.[230] Rather, the landowner must establish a "natural progression of a chain of events" between fuel load accumulation and damage to his property; absent such specificity—amounting to substantial certainty—a takings claim must fail.[231]

In teeing up the issue for remand in *Arkansas Game & Fish*, the Supreme Court directed the lower court to consider whether the inevitably recurring flood "[was] intended or [was] the foreseeable result of authorized government action."[232] As precedent, the opinion cited *John Horstmann Co. v. United States*,[233] where an extraordinary nineteen-foot surge in lake levels occurred immediately after the construction of a federal irrigation project.[234] Lake levels had not varied over two feet in the previous four decades.[235] The project, which was located in an area having extremely porous soils, transported water in unlined canals and seepage from those canals percolated into the lake.[236] Based on the limited science available at the time, the government could not be

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227. *Id.* at 1375.

228. *Id.* at 1379. In contrast, in cases where a taking has been found, the sequence of events "operated like a Rube Goldberg machine, with a concrete beginning (the dam), an ending (the flood), and in the middle, a series of steps each *inevitably following* from the one before it." *Id.* (emphasis added) (citing Cotton Land Co. v. United States, 75 F. Supp. 232, 234 (Ct. Cl. 1948)).

229. *Id.* at 1375.

230. *Id.* at 1375, 1380.

231. *Id.* at 1378–79. The *Cary* court also found that the wildfire had not appropriated any benefit to the government; rather, the fire that destroyed the plaintiff's property also destroyed the public interest that forest management policies had sought to protect. *Id.* at 1380.

232. Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 519, 522 (2012) (citing John Horstmann Co. v. United States, 257 U.S. 138, 146 (1921); Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355–56 (Fed. Cir. 2003); *In re* Chi., Milwaukee, Saint Paul & Pac. R.R. Co. v. United States, 799 F.2d 317, 325–26 (7th Cir. 1986)). The United States argued that damage to downstream property, however foreseeable, was not a taking because it was collateral or incidental and was not aimed at any particular landowner, but the argument was first raised at oral argument so the Court refused to address it. *Id.* at 521–22.

233. 257 U.S. 138 (1921).

234. *Id.* at 143.

235. *Id.* at 142.

236. *Id.* at 143–44.

charged with knowledge that water levels would rise to such an extent that the plaintiff's mining operation would be destroyed.[237] The claim was rejected: "it would border on the extreme to say that the government intended a taking by that which no human knowledge could even predict. . . . [That] could not have been foreseen or foretold."[238]

Foreseeability is the touchstone for a negligence claim arising in tort. For a consequence to be foreseeable, it must be more than merely probable; it must be both "probable and predictable,"[239] or, as some courts say, "natural and probable."[240] Thus, a consequence that *might* have been anticipated may be deemed possible or perhaps even probable, but it is not foreseeable unless it is the predictable, natural, *and* probable consequence of the act. In other words, to be liable for negligence, there must be a finding that the person should have anticipated (predicted) that harm would result as a probable consequence of the act.[241]

The classic formulation of negligence is derived from Learned Hand's opinion in *United States v. Carroll Towing*[242]: one is liable if one fails to undertake the burden of precaution when the burden is less than the probability and severity of harm.[243] According to the

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237. *See id.* at 146 (stating that, given the "obscurity in the movement of percolating waters . . . there could not have been foresight of their destination nor purpose to appropriate the properties").

238. *Id.*

239. *See* Kline v. 1500 Mass. Ave. Apartment Corp., 439 F.2d 477, 483 (D.C. Cir. 1970) (stating that "[i]t would be folly to impose liability for mere possibilities"; rather, liability flows from acts "which are foreseeable in the sense that they are *probable and predictable*" (emphasis added)); *see also* 2 JOHN TOOTHMAN & DOUGLAS DANNER, TRIAL PRACTICE CHECKLISTS § 9:243 (2d ed. 2016) ("When we say that something is foreseeable, we mean that it is a probable *and* predictable consequence of the defendant's negligent acts or omissions." (emphasis added)).

240. *See* Scheffer v. R.R. Co., 105 U.S. 249, 252 (1881) (stating that the injury must have been the "natural and probable consequence" of the act); Fort Smith Gas Co. v. Cloud, 75 F.2d 413, 415 (8th Cir. 1935) (equating foreseeability with "natural and probable consequences"); Hatch v. Globe Laundry Co., 171 A. 387, 389 (Me. 1934) (noting that the "natural and probable consequence" test provides a workable guide to resolving the vast majority of proximate cause cases).

241. *Compare Probable*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "probable" as "[l]ikely to exist, be true, or happen"), *and Probable Consequence*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "probable consequence" as "[a]n effect or result that is more likely than not to follow its supposed cause"), *with Foreseeability*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "foreseeability" as "reasonably anticipatable . . . an element of proximate cause in tort law"), *and Proximate Consequence*, BLACK'S LAW DICTIONARY (10th ed. 2014) (defining "proximate consequence" as a "result following an unbroken sequence from some event, esp. one resulting from negligence").

242. 159 F.2d 169 (2d Cir. 1947).

243. *Id.* at 173; *see* RICHARD A. POSNER, ECONOMIC ANALYSIS OF LAW 122 (2d ed. 1977) (discussing *Carroll Towing*); Richard A. Posner, *A Theory of*

Restatement (Third) of Torts, "Primary factors to consider in ascertaining whether the person's conduct lacks reasonable care are the foreseeable likelihood that the person's conduct will result in harm, the foreseeable severity of any harm that may ensue, and the burden of precautions to eliminate or reduce the risk of harm."[244] Foreseeability turns in part—but only in part—on probability.[245] As such, a test that turns solely on probability of harm does not even rise to the level of foreseeability for purposes of tort liability for negligence, and it falls far short of liability for purposes of a taking.

In cases that allege a temporary taking, the trick is ensuring that intent is not "inferred based on simple causation alone."[246] Where actual intent cannot be shown, using the substantial certainty test to differentiate takings from torts can help address this problem.

Substantial certainty, according to pattern jury instructions, means "virtually sure" or "inevitable," i.e., "almost no chance that the harmful consequences would not occur."[247] When a defendant acts despite appreciation of a foreseeable risk of harm, its conduct is negligent, but when the probability of particular consequences increases to the point of actual or substantial certainty, the defendant is treated as if it had in fact desired to produce the result.[248]

The Restatement (Second) of Torts gives the following example of an intentional tort:

> A throws a bomb into B's office for the purpose of killing B. A knows that C, B's stenographer, is in the office. A has no

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Negligence, 1 J. LEGAL STUD. 29, 32 (1972) (explaining the classic B<PL formula for negligence); Basil A. Umari, Note, *Is Tort Law Indifferent to Moral Luck?*, 78 TEX. L. REV. 467, 489 (1999) ("[F]oreseeability and probability are not synonymous.").

244. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL & EMOTIONAL HARM § 3 (AM. LAW INST. 2010).

245. *Id.*

246. Dunn v. City of Milwaukie, 328 P.3d 1261, 1271 (Or. 2014).

247. 18 H. ALSTON JOHNSON, III, LOUISIANA CIVIL LAW TREATISE, CIVIL JURY INSTRUCTIONS § 14:3 (3d ed. 2016).

248. Fisher v. Shenandoah Gen. Constr. Co., 498 So. 2d 882, 883–84 (Fla. 1986); Fyffe v. Jeno's, Inc., 570 N.E.2d 1108, 1110 (Ohio 1991); *see* Wallace v. Rosen, 765 N.E.2d 192, 197 (Ind. Ct. App. 2002) ("[T]he mere knowledge and appreciation of a risk—something short of substantial certainty—is not intent."); *see also* Staub v. Proctor Hosp., 562 U.S. 411, 417 (2011) ("Intentional torts . . . 'as distinguished from negligent or reckless torts[,] . . . generally require that the actor intend "the *consequences*" of an act,' not simply 'the act itself.'" (quoting Kawaauhau v. Geiger, 523 U.S. 57, 61–62 (1998))); Spivey v. Battaglia, 258 So. 2d 815, 817 (Fla. 1972) (finding no intent where a hug had the "bizarre" result of paralysis).

> desire to injure C, but knows that his act is substantially certain to do so.[249]

A did not set out to harm C; A did not act with any purpose or design toward C whatsoever. Yet C's injury is the direct, natural, and probable—even inevitable—result of A's act. A acted with substantial certainty of the consequence to C.

As the drafters of the Third Restatement further clarified: "The applications of the substantial-certainty test should be limited to situations in which the defendant has knowledge to a substantial certainty that the conduct will bring about harm to a particular victim, or to someone within a small class of potential victims within a localized area."[250] C qualifies as the particular victim, and if C was among a pool of stenographers, that pool would qualify as the small class of potential victims.

By way of contrast, the Seventh Circuit highlighted examples where, over time, some harm to someone may be anticipated, but substantial certainty of direct harm to the plaintiff is lacking: "Suppose agents of the FBI, while chasing a kidnapper, demolish someone's car, or suppose a postal van runs over a child's tricycle. Do these accidents "take" the car and tricycle? Certainly they are casualties of the operation of government. . . . [But they are] not takings."[251]

Neither the FBI agents nor the postal van driver is substantially certain of a direct consequence to the car or the tricycle. That the destruction was caused by the FBI agents and, in the second case, the van driver is undeniable, but both the car and the tricycle are, in effect, collateral damage. The government may be liable for negligence, but not for a constitutional taking.

To summarize, a taking can only occur in a case of temporary physical occupation when the government acts with the purpose of occupying the property or with a substantial certainty that the occupation of the property will occur. Absent purpose or substantial certainty of direct harm to a particular claimant or discrete class of claimants, damage that results from risk-taking, even intentional or reckless risk-taking, comes within negligence rules—as a tort.

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249. RESTATEMENT (SECOND) OF TORTS § 8A cmt. b, illus. 1 (AM. LAW INST. 1965).

250. RESTATEMENT (THIRD) OF TORTS: LIABILITY FOR PHYSICAL HARM §1 cmt. e (AM. LAW INST., Proposed Final Draft No. 1, 2005). This would exclude a landowner engaged in the construction of a high-rise building during which a number of workers will be injured in the course of construction, a railroad whose operations will result in a number of injuries to unidentifiable persons at unknown times in the future, and a knife manufacturer where persons using its knives will inadvertently cut themselves at some point in time. *Id.*

251. *In re* Chi., Milwaukee, Saint Paul & Pac. R.R. Co. v. United States, 799 F.2d 317, 325–26 (7th Cir. 1986).

When courts require proof that the invasion of the claimant's land was the direct, natural, *and* probable result of the government's act, the substantial certainty test is met.[252] However, when courts apply that phrase in the disjunctive—seeking only a direct, natural, *or* probable result—takings liability may be imposed for attenuated results that may have been foreseeable (if even that), but not substantially certain or intentional.[253]

The Claims Court opinion in *Hansen* demonstrates this problem.[254] *Hansen* allowed takings claims to proceed in a case that looked remarkably like a tort, and should have been treated as one. In *Hansen*, plaintiff's groundwater wells were contaminated due to the mishandling of a pesticide that the Forest Service had used, stored, and dumped on neighboring land some twenty years prior to the lawsuit.[255] The court found a causal link between the dumping and the well contamination through seepage of the pesticide when it was spilled or poured onto the ground and then moved down the gradient to plaintiff's wells.[256] There was no evidence that the Forest Service had actual or constructive knowledge of either the migratory nature of the pesticide or the underlying hydrogeology at the time of the events.[257] The causal link in *Hansen* may have been sufficient for cause-in-fact but it does not appear to have been sufficient for proximate cause, as needed for a negligence claim,

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252. *See* L.L. Richard v. United States, 282 F.2d 901, 904 (Ct. Cl. 1960) (requiring that the occupation be "the natural and probable consequence"); Cotton Land Co. v. United States, 75 F. Supp. 232, 234 (Ct. Cl. 1948) (requiring that flooding be the "actual and natural consequence"); *cf.* Dunn v. City of Milwaukie, 328 P.3d 1261, 1274 (Or. 2014) (applying substantial certainty test in finding that damage caused by sewage backing up into plaintiff's bathroom when city used pressurized water to clean adjacent sewer lines was not "necessary, certain, predictable, or inevitable," and thus was not a taking).

253. *See* Hansen v. United States, 65 Fed. Cl. 76, 97–98 (2005).

254. *Id.*

255. *Id.* at 81. Employees reportedly buried several pesticide cans on Forest Service land near plaintiff's property in the mid-1970s. By the time the plaintiff purchased the property in 1998, contamination had been detected, but apparently neither the seller nor the plaintiff became aware of it until a year or two later. *Id.*

256. *Id.* at 121.

257. *Id.* According to the *Hansen* court, the plaintiff produced sufficient evidence to raise an issue of fact as to whether contamination "constitute[d] a permanent and substantial invasion that was the direct, natural, or probable consequence of intentional and authorized government actions." *Id.* at 120. *But see* John Horstmann Co. v. United States, 257 U.S. 133, 146–47 (1921) (finding no intentional invasion of floodwater in light of "obscurity in the movement of percolating waters" at the time). Of course, if there were a permanent invasion, the per se test of *Loretto Teleprompter* would apply, not the balancing test applicable to temporary invasions. Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419, 436 n.12 (1982).

much less for the direct, natural, and probable causal connection needed for a takings claim.[258]

In the Missouri River flood case, the test cannot be met unless the myriad plaintiffs, many of whom are situated hundreds of miles downstream from the allegedly mismanaged dams, show that the Corps acted with substantial certainty that their particular properties would be inundated by inevitably recurring floodwaters in excess of pre-dam flood conditions.[259] If instead, as in *National By-Products*, flooding is "the result of a particular 'concatenation of physical conditions,'"[260] there is no taking.

On the other hand, the test would likely be met in a case like *Arkansas Game & Fish*, where the Corps was on notice that the State's property would be damaged if the Corps persisted in operating its dam in a way that kept farm fields dry for longer periods.[261] Another example is *St. Bernard Parish Government v. United States*,[262] where plaintiffs raised takings claims against the Corps for constructing and operating a seventy-six-mile-long navigational channel, known as the Mississippi River–Gulf Outlet ("MRGO").[263] The MRGO significantly increased storm surge and caused flooding on their properties during Hurricane Katrina in 2005, as well as "inevitably recurring" flooding during Hurricane Rita that same month and Hurricanes Gustav and Ike in 2008.[264] The record showed that the Corps was aware of "significant ecological changes in the St. Bernard region almost immediately after construction of the MRGO began" in the 1950s.[265] In prior tort-based cases, the courts found that MRGO allowed Hurricane Katrina to generate a storm surge capable of breaching levees and

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258. *See Hansen*, 65 Fed. Cl. at 106, 121–22 (finding that the plaintiff had met the causation requirement and that the "causation requirement . . . simply requires proof that the government is the cause-in-fact of the harm for a taking to occur").

259. *See supra* notes 44–49 and accompanying text (describing the *Ideker Farm* litigation).

260. Nat'l By-Prods., Inc. v. United States, 405 F.2d 1256, 1274 (Ct. Cl. 1969); *supra* notes 112–17 and accompanying text; *see* Sanguinetti v. United States, 264 U.S. 146, 149–50 (1924) (dismissing a takings claim where the parcel had been subject to overflows prior to construction of the canal); ARK–MO Farms, Inc. v. United States, 530 F.2d 1384, 1386 (Ct. Cl. 1976) (dismissing claim for flood-related crop damage absent proof that the closing of a dam caused greater flooding than pre-dam conditions).

261. *See supra* notes 124–51 and accompanying text (describing the *Arkansas Game & Fish* litigation).

262. 121 Fed. Cl. 687 (2015).

263. *Id.* at 690–91.

264. *Id.*

265. *Id.* at 719. By 2004, the Corps had no choice "but to recognize that a hurricane inevitably would provide the meteorological conditions to trigger the ticking time bomb created by a substantially expanded and eroded [MRGO] and the resulting destruction of wetlands that had shielded the St. Bernard Polder for centuries." *Id.* at 747.

flooding St. Bernard, but ultimately found the Corps immune from tort claims under the discretionary function exception to the Federal Tort Claims Act.[266] The *Saint Bernard Parish* court found a taking because the Corps had knowledge that MRGO would increase salinity, wetland loss, and erosion that would, in turn, exacerbate MRGO's funnel effect and make MRGO into a hurricane superhighway that intensified surges hitting St. Bernard and flooding the plaintiffs' properties.[267] In a subsequent opinion, the court determined that a class action would be appropriate for "at least" thirty thousand affected property owners.[268]

Why impose such a high threshold on takings claimants? Returning to the fundamental premise of the Fifth Amendment: "The idea that the sovereign's power of eminent domain could be exercised through error, accident, or inadvertence, is at odds with the nature of the power itself."[269] The underlying principles and purposes of the Takings Clause suggest that takings liability for temporary occupations should only flow from a purposeful act undertaken to accomplish a public purpose.[270]

IV. BACKGROUND PRINCIPLES

If a claim qualifies as a taking rather than a tort, the claim may only succeed if the claimant possessed a legally protected property right that was appropriated by government action undertaken for a public use.[271] Owners of inherently vulnerable floodplain and coastal land possess inherently limited property rights in several respects. First, the background principles of property law include water law, which is an essential component of the riparian estate,

266. *In re* Katrina Canal Breaches Litig., 696 F.3d 436, 454 (5th Cir. 2012).

267. Saint Bernard Par. Gov't v. United States, 126 Fed. Cl. 707, 720 (2016). Although the Claims Court required only that the result (flooding of the property) be the "foreseeable result of government action," the facts of *the Saint Bernard* case would likely support a takings claim under the higher threshold of substantial certainty. *Id.* (citing Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 522 (2012)).

268. *Saint Bernard Par.*, 126 Fed. Cl. at 734.

269. Dunn v. City of Milwaukie, 328 P.3d 1261, 1270 (2014).

270. *See supra* notes 61–62, 187–90.

271. *See* Ridge Line, Inc. v. United States, 346 F.3d 1346, 1355–57 (Fed. Cir. 2003) (noting that whether there was a taking depended first on whether the loss could be analyzed as a taking as opposed to a tort and, second, on whether a landowner had a protectable property interest in avoiding flooding from runoff under state law); Mildenberger v. United States, 91 Fed. Cl. 217, 243, 246–47 (2010) (quoting Armstrong v. United States, 364 U.S. 40, 49 (1960)) (holding that plaintiffs could not seek compensation for an alleged taking of asserted rights to "fish, swim, bathe, view wildlife or operate a boat" and stating that plaintiffs may only assert takings claims if they have property rights).

providing both benefits to and limitations on the owner.[272] The law of water rights of any given jurisdiction is fundamentally intertwined with the owner's reasonable investment-backed expectations. Further, where the land use in question is a common law nuisance or offends the public trust doctrine, a government may adversely affect the use without liability for a taking.[273] Finally, where the government confers at least as much benefit as it does loss, i.e., where the claimant has experienced givings rather than takings, there is no right to Fifth Amendment compensation.[274]

A. Reasonable Investment-Backed Expectations

Background principles of property law may have made all the difference in the *Arkansas Game & Fish* case. Under Arkansas law, the Commission had no legally protected entitlement to unaltered river flows, given the correlative nature of riparian water law, where each riparian owner may use water or modify flows to serve their reasonable needs.[275] Riparian rights are inherently flexible and inherently uncertain.[276] The Commission could not have had a reasonable investment-backed expectation to be free of changed inundation patterns.[277] The Court recognized the relevance of this issue to the disposition of the takings claim, but the issue had been waived because the United States failed to contest whether a riparian landowner had a property right not to be inundated under state law.[278]

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272. *See* T.E. Lauer, *The Common Law Origin of the Riparian Doctrine*, 28 MO. L. REV. 60, 60 (1963) (discussing the common law origin of the riparian estate).

273. Albert C. Lin, *Public Trust and Public Nuisance: Common Law Peas in a Pod?*, 45 U.C. DAVIS L. REV. 1075, 1078 (2012).

274. The doctrine of public necessity, which absolves a government of liability for the destruction of private property to prevent grave threats to life or property of others, may also serve as an inherent limitation on riparian and coastal landowners' interests. *See* Irwin v. City of Minot, 860 N.W.2d 849, 852 (N.D. 2015) (citing TrinCo Inv. Co. v. United States, 722 F.3d 1375, 1378 (Fed. Cir. 2013)); *see also* Robin Kundis Craig, *Public Trust and Public Necessity Defenses to Taking Liability for Sea Level Rise Responses on the Gulf Coast*, 26 J. LAND USE & ENVTL. L. 395, 420 (2011); Susan S. Kuo, *Disaster Tradeoffs: The Doubtful Case for Public Necessity*, 54 B.C. L. REV. 127, 127 (2013); Brian Angelo Lee, *Emergency Takings*, 114 MICH. L. REV. 391, 392 (2015).

275. Abrams & Bertelsen, *supra* note 9, at 10 (citing Harris v. Brooks, 283 S.W.2d 129, 133 (Ark. 1955)).

276. Jennifer S. Graham, Comment, *The Reasonable Use Rule in Surface Water Law*, 57 MO. L. REV. 223, 237 (1992).

277. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1375 (Fed. Cir. 2013); *see* Ridge Line, Inc. v. United States, 346 F.3d 1346, 1357 (Fed. Cir. 2013) (noting that, under West Virginia's rule of reasonable use, landowners dealing with drainage are entitled to take steps as are reasonable "in light of all the circumstances of relative advantage to the actor and disadvantage to the adjoining landowners, as well as social utility").

278. *Ark. Game & Fish*, 736 F.3d at 1375.

The Supreme Court has dismissed takings claims in numerous cases where government action caused significant economic harm but did not interfere with interests "sufficiently bound up with the reasonable expectations of the claimant to constitute 'property' for Fifth Amendment purposes."[279] In *Penn Central*, the Supreme Court found that New York City's landmark preservation law did not interfere with reasonable expectations where Penn Central could continue to use Grand Central Station just as it had in the past, as a railroad terminal with office space and commercial concessions, despite its designation as a landmark.[280] Although Penn Central was unable to construct a fifty-story office building above the station, New York had not interfered with the "distinct," "primary expectation" for the use of the parcel, and Penn Central was still able to obtain a "reasonable return" on its investment.[281] This prong of the takings analysis quickly became known as the "reasonable investment-backed expectations" test,[282] which turns on objectively reasonable expectations in the use of the property.[283] As Justice Kennedy remarked in *Lucas v. South Carolina Coastal Council*,[284] "The expectations protected by the Constitution are

279. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 125 (1978) (citing United States v. Willow River Power Co., 324 U.S. 499 (1945)) (no property interest in high-water level to maintain power head); United States v. Chandler-Dunbar Water Power Co., 229 U.S. 53, 73–75 (1913) (no property interest in navigable waters); *see* Demorest v. City Bank Farmers Trust Co., 321 U.S. 36, 48–49 (1944); Muhlker v. N.Y. & Harlem R.R. Co., 197 U.S. 544, 570 (1905).

280. *Penn Cent.*, 438 U.S. at 136.

281. *Id.* The Court cited *Penn. Coal Co. v. Mahon*, 260 U.S. 393 (1922), for the principle that destruction of only "distinct" investment-backed expectations could result in a taking. *Penn Cent*, 438 U.S. at 124, 127 (citing *Mahon*, 260 U.S. at 413).

282. Kaiser Aetna v. United States, 444 U.S. 164, 175 (1979); *see Penn Cent.*, 438 U.S. at 125 (noting that the Court had rejected takings claims when the government action "did not interfere with interests that were sufficiently bound up with the reasonable expectations of the claimant to constitute 'property'").

283. *See, e.g.*, Tahoe-Sierra Pres. Council, Inc. v. Tahoe Reg'l Planning Agency, 535 U.S. 302, 338 (2002); Palazzolo v. Rhode Island, 533 U.S. 606, 633 (2001); Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1035 (1992) (Kennedy, J., concurring); *see* Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 499 (1987) (finding no taking where only about 75% of the claimant's coal could be profitably mined even without regulatory restrictions, and where "reasonable 'investment-backed expectations'" were not materially affected by a regulatory duty to retain a small percentage for surface support); Ruckelshaus v. Monsanto Co., 467 U.S. 986, 1005–06 (1984) (explaining that a "unilateral expectation or an abstract need" does not constitute a reasonable investment-backed expectation); *see also* Thomas Ruppert, *Reasonable Investment-Backed Expectations: Should Notice of Rising Seas Lead to Falling Expectations for Coastal Property Purchasers?*, 26 J. LAND USE & ENVTL. L. 239, 246 (2011) (tracing the evolution of the principle).

284. 505 U.S. 1003 (1992).

based on objective rules and customs that can be understood as reasonable by all parties involved."[285]

One facet of this prong of the takings inquiry is the notice rule: owners who acquired property with actual or constructive knowledge of an existing restriction or limitation—such as flooding—may not have had reasonable expectations of unfettered development.[286] Yet notice of an existing restriction at the time of purchase does not automatically bar a takings claim; it is simply one important factor to weigh in the balance.[287]

In *St. Bernard Parish*, the Claims Court acknowledged that a property owner's "reasonable investment-backed expectations" must include knowledge of prior flooding.[288] However, the court found that, while plaintiffs' properties were in a floodplain and "had experienced flooding in the past," the experience was not "comparable" to the flooding during Hurricane Katrina and subsequent storms, where the government's MRGO navigational channel significantly increased storm surge and directed it onto the properties.[289] Absent MRGO, properties within the levee system had been protected from flooding, giving rise to "reasonable investment-backed expectations" concerning the use and value of the plaintiffs' land, residences, and businesses.[290] Thus, the court found that the *St. Bernard* plaintiffs met the *Arkansas Game & Fish* factors: (1) a legally protected property interest; (2) reasonable investment-backed expectations given the character of the land; (3) foreseeability; (4) causation; and (5) substantial damages.[291]

Returning to *Arkansas Game & Fish*, it seems fair to ask the following: if the risk of serious flooding was sufficiently foreseeable for the government to construct a flood control dam, why was that risk not sufficiently foreseeable to landowners downstream from the dam, such that the reasonableness of an expectation in avoiding

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285. *Id.* at 1035 (Kennedy, J., concurring).

286. Gregory M. Stein, *Takings in the 21st Century: Reasonable Investment-Backed Expectations After* Palazzolo *and* Tahoe-Sierra, 69 TENN. L. REV. 891, 893–94 (2002).

287. *Palazzolo*, 533 U.S. at 627. ("[Some] enactments are unreasonable and do not become less so through passage of time or title."). As Justice O'Connor explained in her concurrence, "the regulatory regime in place at the time the claimant acquires the property at issue helps shape the reasonableness of those expectations." *Id.* at 633 (O'Connor, J., concurring); *see Tahoe-Sierra*, 535 U.S. at 315 n.11 (rejecting a claim where plaintiffs purchased the land "amidst a heavily regulated zoning scheme," when "almost everyone . . . knew . . . that a crackdown on development was in the works").

288. 121 Fed. Cl. 687, 719 (2015) (citing Ark. Game & Fish Comm'n v. United States, 133 S. Ct. 511, 522 (2012)).

289. *Id.* at 720.

290. *Id.*

291. *Id.* at 719. As noted above, the character of the government action is an essential factor as well, but that factor was neglected in *Arkansas Game & Fish*, 133 S. Ct. at 521–22.

floods would be called into question? And if changes in the operation of the dam would inevitably alter the inundation patterns downstream, would that fact undermine the reasonableness of the Commission's expectation in avoiding flooding?[292] Given the government's narrow litigation strategy, which rested on the notion that temporary flooding could not constitute a taking, the reasonableness of the Commission's expectations in its floodplain property was not preserved for appeal.[293]

In addition to historic inundations, reasonable investment-backed expectations should include the likelihood of future changes in physical conditions and in infrastructure operations. In particular, climate change may affect the reasonableness of an owner's expectations with regard to water rights and riparian or coastal parcels.[294] As Professor Echeverria observed, "the already apparent and predicted future effects of climate change should arguably bar virtually any water right holder from claiming an investment-backed expectation to exploit a water right free from climate-related regulatory controls."[295] Echeverria's supposition applies equally to riparian and coastal land. According to Justice Kennedy, "Coastal property may present such unique concerns for a fragile land system that the State can go further in regulating its development and use than the common law of nuisance might otherwise permit."[296]

B. The Nature of Vulnerable Properties

In *Lucas*, the Supreme Court recognized public nuisance as a preclusive defense to takings claims.[297] A public nuisance is the substantial and unreasonable use of property in a way that adversely affects a community or a considerable number of persons.[298] The act must be injurious to health, indecent, or offensive, and it must unreasonably interfere with the comfortable enjoyment of life or property.[299]

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292. John Echeverria, *Ruling in MR-GO Takings Lawsuit*, TAKINGS LITIG. (May 2, 2015), http://takingslitigation.com/2015/05/02/ruling-in-mr-go-takings-lawsuit/.

293. *Ark. Game & Fish*, 133 S. Ct. at 521–22.

294. *See* AECOM, *supra* note 16, at 2-10 (describing effects of climate change).

295. John D. Echeverria, *The Intersection of Water Law and Takings Doctrine*, ROCKY MTN. MIN. L. INST., 2014, at 8B-1, 8B-22, http://www-assets.vermontlaw.edu/Assets/directories/FacultyDocuments/Echeverria_IntersectionWaterLawAndTakings.pdf.

296. Lucas v. S.C. Coastal Council, 505 U.S. 1003, 1035 (1991) (Kennedy, J., concurring).

297. *Id.* at 1029.

298. RESTATEMENT (SECOND) OF TORTS § 821B (AM. LAW. INST. 1979).

299. State v. Lead Indus. Ass'n, 951 A.2d 428, 446 (R.I. 2008).

When the use of land is a public nuisance, a takings claim against a government that prohibits or otherwise adversely affects that land use is negated because "no one has a legally protected right to use property in a manner that is injurious to the safety of the general public."[300] This theme harkens back to the nineteenth century, when the Court denied a takings claim brought by a brewery where state law treated breweries as nuisances.[301]

In *Hendler v. United States*,[302] a federal agency's entry onto land to install groundwater monitoring wells and to conduct activities related to a cleanup of toxic chemicals was a nuisance abatement effort not subject to compensation.[303] Similarly, in *John R. Sand & Gravel Co. v. United States*,[304] the court applied the nuisance exception in finding that government occupation to remediate a landfill was not a taking,[305] and in *Hillsboro Partners, LLC v. Fayetteville*,[306] a landowner was not entitled to compensation for the demolition of a building that posed a safety hazard.[307] By contrast, in *Placer Mining Co. v. United States*,[308] the court held that government occupation for remediation of a mine did not come within the nuisance exception, where the claimant did not challenge the remediation work itself but alleged that a government-constructed channel and bridge, distinct from the remediation work, had effectively denied its access to the mine.[309]

Flood control "involves th[e] highest of public interests—the prevention of death and injury."[310] Land use development that

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300. Allied-Gen. Nuclear Servs. v. United States, 839 F.2d 1572, 1576 (Fed. Cir. 1988); *see* Robert L. Glicksman, *Making a Nuisance of Takings Law*, 3 WASH. U. J.L. & POL'Y 149, 183 (2000) ("[A] substantial majority of the courts . . . consider restrictions derived from legislation and administrative regulation, as well as from common law doctrines such as nuisance law, in order to ascertain what use restrictions 'inhere in the title . . . .'"); Joseph L. Sax, *Takings and the Police Power*, 74 YALE L.J. 36, 61–62 (1964).

301. Mugler v. Kansas, 123 U.S. 623, 668 (1887); *see* Keystone Bituminous Coal Ass'n v. DeBenedictis, 480 U.S. 470, 488–89 (1987) (citing *Mugler*, 123 U.S. at 657).

302. 36 Fed. Cl. 574 (1996), *aff'd*, 175 F.3d 1374 (Fed. Cir. 1999).

303. *Id.* at 586.

304. 60 Fed. Cl. 230 (2004), *rev'd on other grounds*, 457 F.3d 1345 (Fed. Cir. 2006).

305. *Id.* at 251.

306. 738 S.E.2d 819 (N.C. App. 2013).

307. *Id.* at 827; *see* Scott v. City of Del Mar, 58 Cal. App. 4th 1296, 1305 (1997) (applying the nuisance exception where a city removed seawalls and patios encroaching on a beach and obstructing public access); *cf.* Seiber v. United States, 364 F.3d 1356, 1371 (Fed. Cir. 2004) (seeming to recognize a nuisance exception to a physical takings claim in upholding a logging restriction that interfered with the owner's right to exclude spotted owls).

308. 98 Fed. Cl. 681 (2011).

309. *Id.* at 685–86.

310. First English Evangelical Lutheran Church v. Cty. of Los Angeles, 210 Cal. App. 3d 1353, 1370 (1989).

undermines or prevents the accomplishment of that public interest may be considered a public nuisance and abated by a government without takings liability. However, due to the narrow litigation strategy adopted by the United States in *Arkansas Game & Fish*, the nuisance exception was not briefed.[311] Even if it had been, it may not have gained traction in that case because there is no indication that maintaining a hardwood forest and wildlife refuge in a riparian area would be considered an unreasonable use of property that adversely affects the community. To the contrary, such uses would likely provide filtration, drainage, and other ecological benefits.

If a particular land use does not amount to a public nuisance, an evolving concept of the public trust may serve as an inherent limitation on property ownership of vulnerable riparian and coastal parcels.[312] Under the public trust doctrine, tidal and navigable waters and the lands beneath them belong to the people and must be administered by the state for their benefit.[313] In *Illinois Central Railroad v. Illinois*,[314] the Supreme Court held that a state legislature could rescind its earlier conveyance of a lake bed without liability for a taking because the state lacked authority to make such a conveyance in the first place: "The State can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them . . . than it can abdicate its police powers in the administration of government and the preservation of the peace."[315] Moreover, federal courts have the authority—as well as the responsibility—to apply the doctrine as a background principle of property law.[316]

At minimum, the doctrine prohibits alienation of trust properties to private entities that would block public access to trust

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311. Abrams & Bertelsen, *supra* note 9, at 10.

312. *See* John Echeverria, *The Public Trust Doctrine as a Background Principles Defense in Takings Litigation*, 45 U.C. DAVIS L. REV. 931, 933 (2012) (applying the public trust doctrine as a defense to takings claims by water rights holders aggrieved by regulatory restrictions designed to protect fish and other trust resources); Lin, *supra* note 273, at 1097; Joseph L. Sax, *Takings, Private Property and Public Rights*, 81 YALE L.J. 149, 155 (1971) (observing that "the idea that public rights can prevail over private property rights appears in the law only sporadically, as in navigation servitude, public nuisance and the public trust doctrines").

313. *See* Michael C. Blumm, *The Public Trust Doctrine - A Twenty-First Century Concept*, 16 HASTINGS W.-NW. J. ENVTL. L. & POL'Y 105, 105–07 (2010); Alexandra B. Klass, *Modern Public Trust Principles: Recognizing Rights and Integrating Standards*, 82 NOTRE DAME L. REV. 699, 707–08 (2006); Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 475 (1970).

314. 146 U.S. 387 (1892).

315. *Id.* at 453.

316. Casitas Mun. Water Dist. v. United States, 102 Fed. Cl. 443, 456 (2011), *aff'd*, 708 F.3d 1340 (Fed. Cir. 2013).

resources.[317] Access has traditionally included rights to fish and to navigate, but some courts have also recognized public rights to recreational uses and to ecological values.[318] As the New Jersey Supreme Court observed, "The public trust doctrine, like all common law principles, should not be considered fixed or static, but should be molded and extended to meet changing conditions and needs of the public it was created to benefit."[319]

The public trust doctrine has provided a viable defense to takings claims by private landowners of riparian and coastal parcels in several cases,[320] but it has been rejected in a few cases where the government or an intervening party attempted to apply it to other types of property, such as vested water rights.[321] As an evolving

317. *Ill. Cent. R.R.*, 146 U.S. at 455–56.

318. *See, e.g.*, Sierra Club v. Dep't of the Interior, 376 F. Supp. 90, 95–96 (N.D. Cal. 1974) (recognizing public rights to Redwood National Park); Owsichek v. State, Guide Licensing & Control Board, 763 P.2d 488, 495 (Alaska 1988) (recognizing public rights to "fish, wildlife and water resources"); Nat'l Audubon Soc'y v. Superior Court, 658 P.2d 709, 719 (Cal. 1983) (recognizing public rights to "the scenic views of [Mono] lake and its shore, the purity of the air, and the use of the lake for nesting and feeding by birds"); *In re* Water Use Permit Applications, 9 P.3d 409, 445 (Haw. 2000) (recognizing public rights to "ground water, surface water and all other water"); Borough of Neptune City v. Borough of Avon-by-the-Sea, 294 A.2d 47, 54 (N.J. 1972) (recognizing public rights to recreational use); *In re* Ellington Constr. Corp., 549 N.Y.S.2d 405, 413–14 (N.Y. App. Div. 1989) (recognizing public rights to parkland); *see also* Kelly v. 1250 Oceanside Partners, 140 P.3d 985, 1010 (Haw. 2006) (recognizing that trustee's discretion is circumscribed by the doctrine). For arguments that the doctrine protects "a viable climate system," see *Juliana v. United States*, No. 6:15-CV-1517-TC, 2016 WL 1442435, at *26–27 (D. Or. Apr. 8, 2016) (denying government's motion to dismiss atmospheric trust and related claims) and Mary Christina Wood & Dan Galpern, *Atmospheric Recovery Litigation: Making the Fossil Fuel Industry Pay to Restore a Viable Climate System*, 45 ENVTL. L. 259, 259, 289–97 (2015).

319. *Borough of Neptune City*, 294 A.2d at 54; *see* Mayor of Clifton v. Passaic Valley Water Comm'n, 539 A.2d 760, 765 (N.J. Super. Ct. 1987) (expanding the doctrine to drinking water as "an essential commodity which all of nature requires for survival"); *see also Nat'l Audubon Soc'y*, 658 P.2d at 721 (applying trust to Mono Lake and non-navigable tributaries); *Kelly*, 140 P.3d at 1011 (broadly construing trust provisions of Hawaii's constitution).

320. *See* Avenal v. State, 886 So. 2d 1085, 1109–10 (La. 2004) (interfering with oyster beds to address erosion concerns not a taking); W.J.F. Realty Corp. v. State, 672 N.Y.S.2d 1007, 1008, 1011 (N.Y. App. Div. 1998) (restricting development in a natural area of Long Island not a taking); McQueen v. S.C. Coastal Council, 580 S.E.2d 116, 119–20 (S.C. 2003) (denying permit to fill tidelands not a taking); Just v. Marinette Cty., 201 N.W.2d 761, 768–69 (Wis. 1972) (prohibiting shoreland landowners from filling wetlands adjacent to navigable waters not a taking).

321. *See Casitas*, 102 Fed. Cl. at 461 (rejecting defense because state law permitted diversions despite harm to trust resources); Tulare Lake Basin Water Storage Dist. v. United States, 49 Fed. Cl. 313, 316, 322–23 (2001) (rejecting defense where government restricted deliveries to protect endangered fish); *cf.* Loveladies Harbor, Inc. v. United States, 28 F.3d 1171, 1183 (Fed. Cir. 1994) (finding a taking when developers were prevented from filling wetlands).

doctrine, the contours of the public trust defense to taking claims remain unclear. However, with respect to temporary physical occupations of parcels on navigable waterways and tidelands, which are situated at the geographic core of the public trust doctrine, the doctrine's relevance to the takings inquiry is unmistakable.

C. Reciprocity of Advantage and Givings

To effectuate the purpose of barring governments from forcing just one or a few owners to bear burdens "[that] should be borne by the public as a whole,"[322] courts look for "an average reciprocity of advantage" in determining whether government has gone "too far" in adversely impacting private property.[323] There is no taking if the action applies over a broad cross section of land and thereby "secure[s] an average reciprocity of advantage."[324] As the Supreme Court explained in *Penn Central*:

> The Fifth Amendment "prevents the public from loading upon one individual more than his just share of the burdens of government, and says that when he surrenders to the public something more and different from that which is exacted from other members of the public, a full and just equivalent shall be returned to him."[325]

The "average reciprocity of advantage" inquiry goes hand in hand with "givings" as an element of a takings claim.[326] Takings are unconstitutional only when they are uncompensated.[327] If the claimant suffered no net loss because the government action or program in question conferred equally as much (or more) benefit as it did loss, there is no taking.[328] Any amount due as compensation

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322. Armstrong v. United States, 364 U.S. 40, 49 (1960).

323. Pa. Coal Co. v. Mahon, 260 U.S. 393, 415 (1922).

324. *See id.* (using government drainage projects as an example of "average reciprocity of advantage" between the owner of the restricted property and the community).

325. Penn Cent. Transp. Co. v. City of New York, 438 U.S. 104, 147–48 (1978) (Rehnquist, J., dissenting) (quoting Monongahela Navigation Co. v. United States, 148 U.S. 312, 325 (1893)).

326. Abraham Bell & Gideon Parchomovsky, *Givings*, 111 YALE L.J. 547, 555–56 (2001); *see also* Daniel D. Barnhizer, *Givings Recapture: Funding Public Acquisition of Private Property Interests on the Coasts*, 27 HARV. ENVTL. L. REV. 295, 359–60 (2003).

327. John D. Echeverria & Michael C. Blumm, Horne v. Department of Agriculture*: Expanding Per Se Takings While Endorsing State Sovereign Ownership of Wildlife*, 75 MD. L. REV. 657, 680 (2016).

328. Horne v. Dept. of Agric., 135 S. Ct. 2419, 2434 (2015) (Breyer, J., dissenting) (stating that, when the government takes part of a crop in reserve, the enhanced price of the remainder "matters"); Brown v. Legal Found. of Wash., 538 U.S. 216, 240 (2003) (rejecting claim where plaintiff suffered no net loss); Bauman v. Ross, 167 U.S. 548, 574 (1897) ("[W]hen part only of a parcel of

"[has] to be discounted, if not erased, to take account of any offsetting benefits."[329]

Flood-related cases serve as a quintessential example of givings that will offset or defeat a takings claim. In *United States v. Sponenbarger*,[330] the Supreme Court explained,

> [A] broad flood control program does not involve a taking merely because it will result in an increase in the volume or velocity of otherwise inevitably destructive floods, where the program measured in its entirety greatly reduces the general flood hazards, and actually is beneficial to a particular tract of land.[331]

Where a government program inflicts some damage on the claimant's land but confers great benefits overall, to provide additional compensation to the claimant would be a windfall.[332] This principle was applied to deny a taking in *John B. Hardwicke Co. v. United States*,[333] when a second government dam increased the incidence and severity of flooding that would have occurred if only the first dam had been built, but the project in its entirety made the expectation of flooding "far less than it would have been if there had been no flood control program at all."[334]

This is not to say that a taking can never occur when the benefits associated with a broad flood control program outweigh its costs. The takings analysis considers only those benefits inuring specifically to the takings claimant, not to the community at large.[335] The relevant inquiry focuses on the "particularized

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land is taken for a highway . . . the incidental injury or benefit to the part not taken is also to be considered.").

329. Echeverria & Blumm, *supra* note 327, at 682; *see Horne*, 135 S. Ct. at 2432, 2434 (Breyer, J., dissenting) (noting that compensation is calculated by subtracting offsetting benefits conferred by the action that caused a taking, e.g., when part of a parcel is taken as a right-of-way, the amount due must be reduced by the increased value of the remaining parcel due to the enhanced road access).

330. 308 U.S. 256 (1939).

331. *Id.* at 266.

332. *Id.* at 266–67; *see* Bartz v. United States, 633 F.2d 571, 578 (1980) (the government is not "an insurer against all damages from floods which may be incidental to [flood-control] projects [that confer] benefits far outweighing detriments").

333. 467 F.2d 488 (Ct. Cl. 1972).

334. *Id.* at 489–90.

335. City of Van Buren v. United States, 697 F.2d 1058, 1062 (Fed. Cir. 1983); United States v. Trout, 386 F.2d 216, 221–22 (5th Cir. 1967); Aaronson v. United States, 79 F.2d 139, 139–41 (D.C. Cir. 1935); Quebedeaux v. United States, 112 Fed. Cl. 317, 323 (2013); *see* Abrams & Bertelsen, *supra* note 9, at 31 (arguing that the "average reciprocity of advantage" precludes recovery where downstream damage is caused by releases from a flood control dam because "[a]ll of the parcels greatly benefit from the first level of triage—the presence of the dam and its operations prevent or mitigate disastrous flooding").

benefits" received by the claimant.[336]

This test has been applied outside of the flood context as well. In *Hendler*, a takings claim was denied when the government installed monitoring wells that benefitted property owners by eliminating the need for them to conduct independent analyses of their property, where the value of the benefit outweighed any lost value due to the occupation.[337]

Like other aspects of the property interest at issue, the need to offset benefits bestowed on the landowner was never vetted in the *Arkansas Game & Fish* litigation. The Corps belatedly tried to raise this argument on remand, but it was precluded.[338]

Circling back to the Missouri/Mississippi River flood of 2011, many of the affected floodplain owners have received a bounty of benefits from the United States through the years. Extensive, direct benefits have been provided by government-constructed and -maintained flood-control structures, in particular, the upstream dams and reservoirs that were allegedly mismanaged in 2011.[339] In addition, government channelization all along the lower river to deepen and straighten the river's banks, so that water flows more quickly downstream to the Mississippi and the Gulf of Mexico, has provided flood-control benefits to many of the claimants' properties by directing excess water away from them.[340] Other structures that have provided particularized benefits—at least to some of the properties—include in-stream wing dams, riprap, dikes, revetments, and other forms of armoring all along the rivers to keep the floodplain as dry as possible.[341]

More directly, many of the affected landowners received subsidized flood insurance and crop insurance, as well as other forms of after-the-fact disaster relief.[342] The public cost for the 2011

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336. *Quebedeaux*, 112 Fed. Cl. at 322–23; *see* Laughlin v. United States, 22 Cl. Ct. 85, 111–12 (1990), *aff'd*, 975 F.2d 869 (1992) (rejecting claim where floodplain agriculture could not have existed at all without dams that released higher volumes during heavy runoff); ARK–MO Farms, Inc. v. United States, 530 F.2d 1384, 1386 (Ct. Cl. 1976) (rejecting claim where a multipurpose navigation system generally alleviated flooding).

337. Hendler v. United States, 175 F.3d 1374, 1376, 1378 (Fed. Cir. 1999). The nuisance-prevention aspect of *Hendler* is assessed above at *supra* note 303.

338. Ark. Game & Fish Comm'n v. United States, 736 F.3d 1364, 1375 (Fed. Cir. 2013).

339. Complaint, *supra* note 3, at 6–7.

340. U.S. ARMY CORPS OF ENG'RS, *supra* note 42, at II-1, II-4, II-16.

341. *See* John H. Davidson, *Multiple-Use Water Resources Development Versus Natural River Functions: Can the WSRA and WRDA Coexist on the Missouri River?*, 83 NEB. L. REV. 362, 392 (2004) (describing bank stabilization projects).

342. Christine A. Klein & Sandra B. Zellmer, *Mississippi River Stories: Lessons from a Century of Unnatural Disasters*, 60 SMU L. REV. 1471, 1495–96

flood fight and mitigation exceeded $1.4 billion, according to a Department of Emergency Services report.[343] Approximately $230 billion in flood-related damages were prevented that year by the federal infrastructure on the Missouri and Mississippi Rivers.[344] As Abrams notes, "even the 'losers' remain beneficiaries of the dam's presence because all persons and landowners downstream benefit from safety increases and the reduction of calamitous risks that the dam provides."[345]

Over the years, other types of benefits have been provided to the claimants as well. Although these benefits are less likely to be considered "particularized" under *Sponenbarger*, they nevertheless are important equitable factors. Throughout the twentieth century, the government provided assistance with subsidies and other measures to promote agriculture and urban development in the floodplain, and to protect vulnerable floodplain land by constructing levees, terraces, and other devices to hold water and protect against soil erosion.[346] Whether or not decades-old conservation programs are subtracted from the bottom line as "particularized benefits" to claimants whose property is impacted by flooding, it is apparent that there have been significant "givings" to the affected parcels that need to be taken into account in any takings claim.[347]

CONCLUSION

Determining which type of claim is being invoked—common law tort or constitutional taking—may be clarified considerably, and the nature of government action affecting floodplain and coastal properties may be illuminated, with a test that differentiates between purposeful appropriations for public benefit, undertaken with intent or substantial certainty of the consequence, and government actions involving some risk of a potentially foreseeable, yet diffuse, impact. Viewed through this lens, claims such as those brought by the landowners affected by the 2011 Missouri/Mississippi flood should be treated as torts, while claims such as those brought by Gulf Coast residents inevitably flooded by the MRGO

(2007); *see supra* note 43 (noting that crop losses were partially offset by insurance and other payments).

343. Bismarck Tribune, *supra* note 50 (quoting Jody Farhat of the Corps's Missouri division).

344. U.S. ARMY CORPS OF ENG'RS, *supra* note 42, at ES-VI, V-12, V-23, V-24. Since inception, the system has prevented approximately $612 billion in flood damages. *Id.*

345. Abrams & Bertelsen, *supra* note 9, at 21.

346. *See* Sandra Zellmer, *Boom and Bust on the Great Plains: Déjà Vu All Over Again*, 41 CREIGHTON L. REV. 385, 395–96 (2008) (describing soil conservation programs) (book review).

347. Bell & Parchomovsky, *supra* note 326, at 551 (assessing ways to account for "derivative givings," such as increased value of property due to creation of adjacent green space).

navigational canal should be treated as takings. More broadly, with this clarification, officials at all institutional levels may be willing to make more proactive decisions to operate their flood control structures to better protect vulnerable areas and human and ecological communities and to restrict or at least mitigate the effects of unsustainable development.

If the jurisdictional threshold can be overcome for claims sounding in takings rather than in torts, both the nature of the government action and the dimensions of the claimant's property interest will be at issue. The ability to develop vulnerable areas, such as floodplain or coastal property, may be prohibited as an inherent restriction under public nuisance, the public trust doctrine, or other background principles of property law. In addition, many floodplain and coastal landowners have received extensive benefits through government flood control programs. If they have already been compensated through government projects that, on balance, provide them with more benefits than losses, there can be no viable takings claim when the floodwaters exceed the capabilities of those projects.